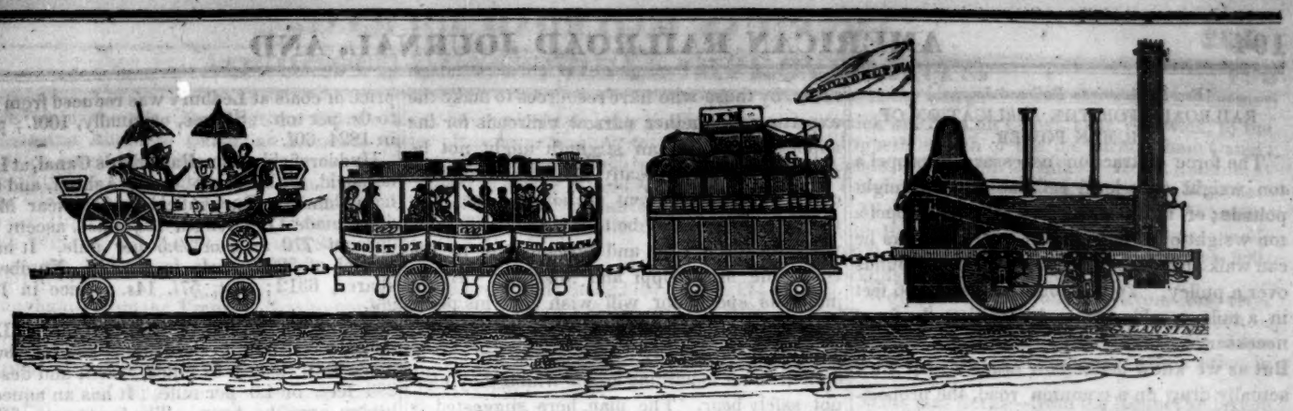

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 30, 1833.

We shall give in our next a description, with engravings, of the "*New-York Patent Guard Rail,*" of which we have before spoken. It is considered, by some of our most distinguished Engineers, a great improvement upon the Iron Rails heretofore in use.

We are indebted to Charles H. Hammond, Esq. of Bennington, Vt., for the interesting and valuable letter from J. Loudon M'Adam, Esq. of Hertfordshire, England, upon the subject of road making, which will be found in this number of the Journal. It will, we are sure, without any solicitation on our part, be read with great pleasure by all who take an interest in the improvement of our system of road making, emanating as it does from a gentleman of intelligence, and long experience in the business upon which he writes.

To the Editor of the American Railroad Journal:

"Mr. Williams, engineer of Cincinnati," in his proposals for "publishing a practical treatise upon road making," invites those who wish to suggest improvements, to communicate to him their thoughts on the subject free of expense. I therefore, in compliance with his requisition, send you the following for insertion in the Railroad Journal.

To construct a good road still continues to be a desideratum. The following mode of effecting this important business has occurred to me: Instead of forming, in the usual way, the road convex, it should be concave, say 25 feet wide, sloping very gradually to the middle, so that the sides shall be a few inches higher than the middle. This, I believe, is not altogether a new idea: the following, however, as far as I know, is new. I would propose that where the ground is level, to make it so much undulating as that the water shall acquire a motion; at each declivity the water should be carried off through hollow drains to the sides. The distance between these artificial mounds must be determined by practical experiments.

Here I give you my proposed improvements in the art of road making. These undulations, I believe, will turn out to be a great relief to the horses. A road so constructed will not be liable to get out of repair. Once *well* made, it will want nothing done to keep it in repair but a supply of new materials.

Yours, &c. J. S.

Natural Wonders.—It is very surprising that two of the greatest natural curiosities in the world are within the United States, and yet scarcely known to the best informed of geographers and naturalists. The one is a beautiful water-fall in Franklin county, Georgia; the other a stupendous precipice in Pendleton district, South Carolina: they are both faintly mentioned in the late edition of Morse's Geography; but not as they merit. The Tuccoa falls are much higher than the falls of Niagara. The column of water is propelled beautifully over a perpendicular rock, and when the stream is full it passes down without being broken. All the prismatic effect seen at Niagara illustrates the spray of Tuccoa. The Table Mountain in Pendleton district, South Carolina, is an awful precipice of 900 feet. Many persons reside within five, seven, or ten miles of this grand spectacle, who have never had curiosity or taste enough to visit it. It is now, however, occasionally visited by curious travellers, and sometimes men of science. Very few persons who have once cast a glimpse in the almost boundless abyss can again exercise sufficient fortitude to approach the margin or the chasm. Almost every one, in looking over, involuntarily falls to the ground, senseless, nerveless, and helpless; and would inevitably be precipitated and dashed to atoms, were it not for measures of caution and security, that have always been deemed indispensable to a safe indulgence of the curiosity of the visitor or spectator. Every one, on proceeding to the spot whence it is usual to gaze over the wonderful deep, has, in his imagination, a limitation, graduated by a reference to instances with which his eye has been familiar. But in a moment, eternity, as it were, is presented to his astonished senses; and he is instantly overwhelmed. His system is no longer subject to his volition or his reason, and he falls like a mass of pure water. He then revives, and in a wild delirium surveys a scene which, for a while, he is unable to define by description or imitation.

How strange is it that the Tuccoa Falls and Table Mountain are not more familiar to Americans! Either of them would distinguish an empire or state in Europe.

The Canal of Gotha.—This canal, one of the greatest undertakings of Europe, has just been completed after the labor of twenty years. It traverses Sweden in all its breadth, from Gottenburg on the Cattegat to Soderkoping on the Baltic, and has been executed at an expense of 10,000,000 of rix dollars. In joining the two seas, the Canal of Gotha opens to trade a shorter and safer passage to the Baltic than that of the Sound, which obliges vessels to double the southern coast of Sweden. By the canal, on the other hand, the navigation is all inland, and therefore more commodious and secure. But a main question to trade rises on this point regarding the expense. The opening of the Sound has been made by nature, the passage by the canal has been formed at a great expenditure of human labor. Duties to indemnify for its cost, it might be supposed, would be levied on the latter from which the former is exempt; but this is not the case, as the following comparative table will show:

Comparative table of the duties of the Sound and of those of the Canal of Gotha.

	Duties of the Sound		Duties of the Canal.
	Rix dol.	Sch. de Suede.	Sch. de Suede.
Cot'n thread, pr 100lb.	1	42	20
Cotton, do.	0	45	10
Coffee, do.	1	12	12 1-2
Sugar, do.	0	22 1-2	5
Tobacco, do.	0	22 1-2	5
Wines per pipe	1	0	30
Salt, per ton	0	3 1-8	2 2-3
Copper, per scolpund	1	12	24
Iron, do.	0	10	4
Hemp, do.	0	20	8
Flax, do.	0	25	10
Tallow, do.	0	15	6

In addition to this saving in duties by the canal, we need not observe that the diminished risk to the shipping will allow a saving in the premiums of insurance. These considerations cannot escape the attention of the ship owners and merchants of this country, who employ on an average, in the Baltic trade, the number of 2,400 vessels, with a tonnage of nearly half a million. The trade to Russia and northern Prussia may infallibly be expected to pursue this route as soon as its advantages are known and appreciated.—[London Times.]

[*For the American Railroad Journal.*]

RAILROADS FOR THE APPLICATION OF HUMAN POWER.

The force of traction necessary to propel a ton weight on a level railroad is about eight pounds; or, in other words, a man can propel a ton weight on a level railroad as easily as he can walk on that road, and draw up eight pounds over a pulley. To surmount an ascent 66 feet in a mile, would require in addition the force necessary to raise 28 pounds over a pulley. But as we know better how much a man may actually draw on a common road, the proposition may be stated thus: that a man may propel one ton on a level railroad as easily as he can draw 112 lb. on a common road. It will not be extravagant then to assume that a man may propel one ton weight on such railroads as it would be practicable to make in our country. To make a railroad with the tracks, but 3½ feet apart, sufficiently strong to sustain cars holding but one ton each, and moved by human strength, would not cost a large sum per mile. I venture to calculate that if such railroads should come into extensive use, they would not cost for double tracks more than 2000 dollars a mile on an average.

But would they answer any purpose as channels of trade? Let us see. If there should be a steady stream of cars, each containing one ton, and moving over the railroad at the rate of but two miles an hour, and ten rods apart, 600 tons might pass over in ten hours, and then, excepting the sabbaths, at this rate 187,800 tons might pass over in a year; and on the supposition that a large city has ten such routes entering it from the country, 1,878,000 tons might come to market on such channels of trade during the year. But the tonnage, domestic and foreign, that departed from the whole United States in 1826, was 1,052,429. Supposing that one-tenth of this departed from Boston, one slight railroad, sufficient for a man to move one ton weight upon it at a time in a car, would convey all its merchandize; and two such railroads would convey to New-York all the goods it would export.

If, however, such railroads would be altogether insufficient for large cities, they might be channels of communication between villages in the country, and from small districts of country to great roads.

Where there is business enough to employ sufficiently a very large capital, invested in heavy railroads, and powerful steam carriage, steam will be found a cheaper power than human strength; but there is a vastly greater amount of capital required for such purposes, and yet the conveyance cannot be indefinitely extended: it must be limited by the population and resources of the country.

The cost of a road that shall every where, over vallies and rivers, be strong enough to sustain the weight and movements of a car of ten tons weight, must be about ten times as great as the cost of a road that shall have to sustain at one point but a ton weight.

We should think it absurd to have a huge, heavy pipe. of a foot diameter, to convey water in occasional gushes, when an inch pipe would convey all the water we should desire or could procure, and just as we should need it too. But if some railroads of gigantic dimensions are to traverse the country, let the trial be made, by those who have resources to make the experiment, whether narrow railroads for the application of human strength might not be made that would greatly facilitate communication between different sections of the interior; and that would be to the great railroads, what the little rills and streams are to the Ohio, the Mississippi and Missouri. Every judicious speculator will wish that his plans may, if possible, be fairly tested by experiment; and tested in this way by those who are able to do it without hazarding losses which they cannot safely bear. The plan here suggested is one that can easily be brought to the test of experiment. If, on a railroad, for half a mile in extent, a man can move a load of a ton weight at the average speed of but two miles, then it will be established that such railroads will be economical, and most convenient lines of conveyance over all the country, and especially to those great railroads where steam machinery works cheaper than man's limbs can do.

Yours, &c. PUBLICOLA.

[*From Partington's British Cyclopædia.*]

CANALS OF GREAT BRITAIN.

(Continued from page 180.)

Grand Junction—A part of the line between London and Liverpool, from Brentford to the Oxford Canal at Braunston; made 1805, length 93½ miles, ascent and descent 587 feet, or 6.3 per mile, breadth 36 24 feet, depth 4½. It has 101 locks; passes the river Ouse and its valley by an embankment about half a mile in length, and 30 feet high. It has a tunnel at Blisworth, 3080 yards in length, 18 feet high, and 16½ wide: and another at Braunston, 2045 yards long, the other dimensions being the same as those of the Blisworth tunnel. Number of shares, 11,957½; originally, £100; price in 1833, 230*l*. Paddington, branch of above; length 13¾ miles; 6 other branches, length 40 miles.

Grand Surrey—from the Thames, at Rotherhithe, to Mitcham; made 1801, length 12 miles. It is of large dimensions, being navigable by the Thames boats. The company pays to the Corporation of London, annually, 60*l*. for the junction of the canal with the Thames.

Grand Western—from the mouth of the Ex, at Topsham, to Taunton Bridge; made 1796, length 35 miles. Number of shares, 3096; cost, 79*l*.; price in 1833, 28*l*.

Tiverton, branch of the above; length 7 miles.

Grand Trunk—a part of the line between London and Liverpool; made 1777, length 93 miles, ascent and descent 642 feet, or 6.9 per mile. It has 4 tunnels, in length 3940 yards, and 9 feet wide. Number of shares, 1300½; price in 1824, 2150*l*. The tonnage is from 3*d*. to 4½*d*. per mile. It has a branch, length 37 miles.

Grand Union—from the Leicester and Northampton Union Canal, near Foxton, to the Grand Junction, east of Braunston Tunnel; length 23¼ miles, ascent and descent 130 feet, or 5.5 per mile. Number of shares, 1521; cost, 100*l*.; price 1824, 50*l*. The canal has, besides, a loan, at 5 per cent. interest, of 19,327*l*.

Grantham—from the Trent, near Holme Pierpoint, to Grantham; made 1799, length 33¾ miles, ascent and descent 148 feet, or 4.4 per mile. It has divided 8 per cent., and left a clear surplus of 3000*l*. to meet unforeseen accidents. Number of shares, 749; cost, 150*l*.; price in 1833, 195*l*. It is supplied with water wholly from reservoirs.

Haslingdon—from the Manchester, Bolton, and Bury Canal, at Bury, to the Leeds and Liverpool, at Church; made 1793, length 13 miles.

Hereford and Gloucester—from the Severn, at Gloucester, to the Wye, at Hereford; made 1790, length 36½ miles, ascent and descent 225 feet, or 6.1 per mile. It has 3 tunnels, of 2192, 1320 and 440, making in all 3952 yards. In consequence of the opening of this canal, the price of coals at Ledbury was reduced from 24*s*. to 6*s*. per ton. Shares, originally, 100*l*.; price in 1824, 60*l*.

Huddersfield—from Ramsden's Canal, at Huddersfield, to the Manchester, Ashton, and Oldham Canal, at Duckenfield Bridge, near Marsden; made 1798, length 19½ miles, ascent and descent 770 feet, or 39.5 per mile. It has a tunnel of 5280 yards in length. Number of shares, 6312; cost, 57*l*. 14*s*.; price in 1833, 25*l*.

Kennet and Avon—from the Avon, at Dolemead, near Bath, to the Kennet and Newbury; made 1801, length 57 miles, ascent and descent 263 feet, or 4.6 per mile. It has an aqueduct bridge over the Avon. The boats are of 25 or 26 tons burthen. Number of shares, 25,328; cost, 35*l*. 5*s*.; price in 1833, 26*l*.

Kingston and Leominster—from the Severn, at Areley, to Kingston; made 1797, length 45¾ miles, ascent and descent 544 feet, or 11.8 per mile. It has two tunnels of 3850, and 1250, making 5100 yards.

Lancaster—from Kirby Kendall to Houghton; made 1799, length 6 m., ascent and descent 287, or 3.8 per mile, depth 7. It has tunnels at Hincaster and Chorley, 800 yards long in the whole. It passes the Loyne by a stone aqueduct, 50 feet high, on 5 arches, each of 70 feet span. It has also a road aqueduct, near Blackmill, 60 feet high. The boats are 56 feet long and 14 broad. Number of shares, 11,699½; cost, 47*l*. 6*s*. 8*d*.; price in 1833, 22*l*.

Leeds and Liverpool—from Liverpool to Leeds; made 1771, length 130 miles, ascent and descent 841 feet, or 6.4 per mile, breadth 42 feet, depth 4½ feet. The boats navigating between Leeds and Wigan are of 42 tons burthen; those below Wigan, and on this side Leeds, of 30 tons. The tunnels at Foulbridge and Finnley are, in the whole, 1609 yards long. It has a beautiful aqueduct bridge over the Ayre. The locks are 70 feet long, and 15¼ wide. The number of shares is 2897¾; originally, 100*l*. each; price in 1833, 455*l*. Tonnage on merchandise, 1¼*d*. per mile; on coals and lime, 1*d*.; on stone, ½*d*.

Leicester—from the Loughborough basin to the Soar, which has been rendered navigable as far as Leicester; length 21¼ miles, ascent and descent 230 feet, or 10.7 per mile. Number of shares, 545; cost, 140*l*.; price in 1833, 190*l*.

Leicester and Northamptonshire Union—from Leicester to Market Harborough; made 1805, length 43¾ miles, ascent and descent 407 feet, or 9.3 per mile. It has 4 tunnels, 1056, 990, 880, and 286, in the whole 3212 yards in length. Number of shares, 1895; cost, 83*l*. 10*s*.; price in 1833, 88*l*.

Loughborough—from the Trent, near Sawley, to Loughborough; made 1776, length 9½ miles, ascent and descent 41 feet, or 4.3 per mile. Number of shares, 70; cost, 142*l*. 17*s*. 8*d*.; price in 1833, 1800*l*.

This canal affords a striking instance of the mutability of canal property. In 1824, we find the shares at *four thousand pounds each*, they are now reduced to less than half the money, and this reduction may be mainly ascribed to the increased facilities in coast conveyance.

Market Weighton; made 1770, length 11 miles, ascent and descent 35 feet, or 3.2 per mile.

Monkland—a continuation of the Forth and Clyde Canal; length 12 miles, ascent and descent 96 feet, or 8 per mile.

Monmouthshire—this canal is remarkable for the extent of its railways and inclined planes; made 1796, length 17¾ miles, ascent and descent 1057 feet, or 53.5 per mile. Number of shares, 2409; cost, 100*l*.; price in 1833, 194*l*. It has, besides, a loan of 43,526*l*. at an interest of 5 per cent.

Montgomeryshire—from a branch of the Ellesmere Canal to Newtown; made 1797, length 27 miles, ascent and descent 225 feet, or 8.3 per mile. Number of shares, 700; originally, 100*l*.; price in 1833, 85*l*.

Welshpool, branch of the above; length 3¼ miles.

Neath—from the river Neath, at the Giant's Grave, to the Aberdare Canal, at Abernant; made 1798, length 14 miles. It serves for the transportation of copper and lead ore from Cornwall to Glamorganshire. Number of shares, 247; cost, 107*l.* 10*s.*; price in 1833, 285*l.*

North Wilts—from the Thames and Severn Canal to the Wilts and Berks; made 1798, length 8½ miles.

Nottingham—from the Trent, at Nottingham, to the Cromford Canal, near Langley Bridge; made 1802, length 15 miles.

Oakham—from Melton Mowbray to Oakham; made 1803, length 5 miles, ascent and descent 126 feet, or 8.4 per mile. Number of shares, 522; cost, 130*l.*

Oxford—from the Coventry Canal to the river Isis at Oxford, and a part of the grand line between Liverpool and London; made 1790, length 91½ miles, ascent and descent 269 feet, or 2.9 per mile, breadth 30-16 feet, depth 5 feet. It has 3 aqueducts of very considerable magnitude, a tunnel at Newbold 125 yards long, and 12½ feet wide, and one at Fenny Compton 1188 yards long and 9¾ feet wide. It rises from the level of the Coventry Canal, in 45½ miles, to the summit at Marston Tolls, 74 feet 1 inch, by 12 locks; and descends from the summit at Claydon, in 35 miles, to the Isis, 195½ feet, by 30 locks. It has 188 stone and brick bridges. It cost 178,648*l.* stock, besides 130,000*l.* loan, above half of which has been paid off. Number of shares, 1786; originally, 100*l.*; price in 1833, 560*l.*

Peak Forest—from the Manchester, Ashton, and Oldham Canal, at Duckenfield, to the Chapel Milton basin; made 1800, length 21 miles. It has a railway 6 miles long. It passes the Mersey, by a bridge 100 feet high, of 3 arches, each of 60 feet span. Number of shares, 2400; cost, 77*l.*; price in 1833, 74*l.*

Portsmouth and Arundel—from the river Arun, near Little Hampton, to the bay connected with Portsmouth Harbor; made 1815, length 14½ miles. Number of shares, 2520; cost, 50*l.*

Ramsden's—from the Calder and Hebble Navigation to the Huddersfield Canal; made 1774, length 8 miles, ascent and descent 56 feet, depth 7 feet.

Regent—the last link, near London, of the chain connecting that city and Liverpool; made 1820, length 9 miles, ascent and descent 86 feet, or 9.5 per mile. It commences at Paddington, from the Grand Junction Canal, and meets the Thames at Limehouse, descending, by 12 locks, to a basin communicating with a ship lock. The locks have double chambers, which are estimated to make a saving of nearly one-half the usual quantity of water. It has two tunnels, one at Maida Hill, 370 yards long, the other under Islington, 900 yards. Number of shares, 12,294; cost, 40*l.* 10*s.*; price in 1833, 16*l.* 10*s.*

Ripon—from the river Ure, at Milby, to Ripon; made 1767, length 7 miles.

Rochdale—from the Bridgewater Canal, in the town of Manchester, to the Calder and Hebble Navigation, at Sowerby Bridge; made 1804, length 31 miles, ascent and descent 613 ft. or 19.7 per mile. It has 49 locks, 8 aqueducts, a tunnel 70 yards in length, and several reservoirs. Number of shares, 5631; cost, £85; price in 1833, £88.

Royal Irish—from Dublin, in a westward direction, to the Shannon, at Tasmonbarry, nearly parallel to the Dublin Canal, and about 10 miles distant from it; length 68 miles, ascent and descent 614 ft. or 9 per mile. Its greatest elevation above the sea is 307 feet, to which it ascends from Dublin by 26 locks, and descends to the Shannon by 15 locks.

Sankey—from the Mersey and Irwell Navigation, at Fiddler's Ferry, to Sutton Heath Mines; made 1760, length 12½ miles, ascent and descent 78 feet or 6.2 per mile, breadth 48 feet, depth 5 feet. It has 10 locks, and also a tunnel, near St. Helen's. It was the first canal constructed in England.

Shorncliff and Rye, or Royal Military—from the sea, at Hythe, to the mouth of the river Rother; made 1809, length 18 miles. It is a level, having locks to keep in the water at low tide. It is large enough to receive vessels of 200 tons burthen. Each of its extremities is defended by strong batteries. It was constructed on account of Bonaparte's projected descent on England, and hence its name of Royal *Military* Canal.

Shrewsbury—from Shrewsbury to the Shropshire Canal; made 1797, length 17½ miles, ascent and descent 155 feet or 9 per mile. One half of the ascent is effected by locks, the other half by inclined planes. It has one tunnel. Number of shares, 500; originally, £125; price in 1833, £250.

Shropshire—from the Severn, at Coalport, to the Shrewsbury Canal, at Downington Wood; made 1792, length 7½ miles, ascent and descent 453 feet, or 60.4 per mile. It has several inclined planes and railways, but no locks. Price in 1833, £138.

Somerset Coal—from the Kennet and Avon Canal, at Monkton Coombe, to Paulton: made 1802, length 8½ miles, ascent and descent 138 feet, or 16.2 per mile. The boats are 72 feet long and 7 broad. It has 22 locks. Number of shares, 800; original cost, 50*l.*; price in 1833, 170*l.* Radstock, branch of the above; length 7½ miles, ascent and descent 138 feet, or 18.4 per mile.

Southampton and Salisbury—from the Itchin, at Northam, to the Avon, at Salisbury; made 1804, length 17½ miles.

Stafford and Worcester—from the river Severn, at Stourport, to the Grand Trunk Canal; made 1772, length 46½ miles, ascent and descent 394 feet, or 8.4 per mile, breadth 30 feet, depth 5 feet. It has 44 locks. Its boats are of 20 tons burthen. It has 3 tunnels. Number of shares, 700; cost, 140*l.*; price in 1833. 550*l.* Tonnage not to exceed 1½*d.* per mile.

Stainforth and Keadby—from the river Trent, at Keadby, to the Don, at Fishlake; made 1798, length 15 miles.

Stourbridge—from the Stafford and Worcester Canal, at Stourton, to the Dudley Canal; made 1776, length 5 miles, ascent and descent 191 feet, or 38.2 per mile, breadth 28 feet, depth 5 feet. It has 20 locks. Number of shares, 300; originally, 245*l.*; price in 1833, 190*l.*

Stover—from the river Teign, at Newtown, to Bovey Tracey; made 1792, length 6½ miles, ascent and descent 50 feet, or 8 per mile. Chudleigh, branch of the above; length 5½ miles.

Strudwater—from the river Severn, at Framiload, to the Thames and Severn Canal at Wallbridge; made 1796, length 8 miles, ascent and descent 108 feet, or 13.5 per mile. Price in 1833, 510*l.*

Swansea—from Swansea Harbor to Hen Noyadd; made 1798, length 17½ miles, ascent and descent 366 feet, or 20.9 per mile. Like the Neath Canal, it serves to transport copper ore from Cornwall to Glamorganshire founderies. Number of shares, 533; originally, 100*l.*; price in 1833, 185*l.* Liansamlet, branch of the above, length 3 miles.

Tavistock—from the river Tamar, at Calstock, to Tavistock; made 1810, length 4½ miles, ascent and descent 237 feet, or 52.7 per mile. It has a tunnel at Morwellham, 460 feet below the surface. This tunnel led to the discovery of a copper mine. Its boats are 15½ feet in length, and in breadth. Number of shares, 350; originally, 100*l.* Mill Hill, branch of the above; length 2 miles.

Thames and Medway—from the Thames, at Gravesend, to the river Medway; made 1800, length 8½ miles. Number of shares, 2670; cost, 42*l.* 9*s.* 5*d.*; price in 1824, 26*l.* This canal has loans to a large amount.

Thames and Severn—from the Stroudwater Canal to the Thames and Isis Navigation; made 1789, length 30½ miles, ascent and descent 377 feet, or 12.3 per mile, breadth 40-30 feet, depth 5 feet. The boats are of 70 tons burthen, being 80 feet long and 5 broad. It has a tunnel at Sapperton, 250 feet below the top of the hill of rock under which it passes. The bottom of this tunnel is an inverted arch. Price 29*l.*

Warwick and Birmingham—from the Warwick and Napton Canal, near Warwick, to the Digbeth branch of the old Birmingham Canal; made 1769, length 25 miles. It has a tunnel at Fazeley 300 yards in length. It has 32 locks.

Warwick and Napton—from the Warwick and Birmingham to the Oxford Canal; made 1799, length 15 miles. Number of shares, 980; originally, 100*l.*; in 1833, 216*l.*

Wey and Arun Junction—from the river Wey, near Godalming, to the north branch of the Arun River Navigation; length 16 miles. Number of shares, 905; cost, 110*l.*; price in 1833, 22*l.* 10*s.*

Wilts and Berks—from the Kennet and Avon Canal, at Semington, to the Thames and Isis Navigation; made 1801, length 52 miles, ascent and descent 376 feet, or 7.2 per mile. Price in 1823, 4*l.* 10*s.* Calne, branch of the above; length 3 miles.

Worcester and Birmingham—from the Severn, at Digilis, below Worcester, to the Birmingham and Fazeley Canal, at Farmer's Bridge; made 1797, length 29 miles, ascent and descent 128 feet, or 4.3 per mile, breadth 42 feet, depth 6 feet. Price 85*l.*

Wyrley and Essington—from a detached part of the Fazeley Canal, at Huddlesford, to the Birmingham Canal, at Wolverhampton; made 1796, length 23 miles, ascent and descent 270 feet, or 11.6 per mile, breadth 28 feet, depth 4½ feet. The boats are of 18 tons burthen. It has 28 locks. Price in 1833, 115*l.*

Hayhead branch—length 5½ miles.
Lordshery branch—length 2½ miles.
Wyrley Bank branch—length 4 miles.
Essington branch—length 1 mile.

Norwich and Lowestoff Navigation—made 1829, length 50 miles, breadth 50 feet.

The works near Yarmouth open an inland navigation in two directions; one 30 miles, by the Yare, the other 20 miles by the Waveney, without a lock. The river Yare discharges at Yarmouth, about 30 miles below Norwich, but the navigation is obstructed by shoals and shifting sands at its mouth. To avoid these obstructions, the river is to be made navigable for seaborne vessels from Norwich to a place 20 miles lower down the river, called *Reedham Ferry*, where a new cut of 2½ miles is to be made across the marshes, to join the river Waveney at St. Olave's Bridge, whence the water communication proceeds by a small stream (Oulton Dyke), and two lakes (Oulton Broad and Lothing,) from the latter connected with the sea by a channel 700 yards long and 40 feet wide, with a sea lock 50 feet wide in the clear, and 24 feet deep, for the purpose of admitting sea-borne vessels. Oulton Dyke, and Oulton Broad, are to be deepened. The lock constructed at the outlet of Lake Lothing makes an artificial harbor, the first that has been formed in England. This lock has folding gates pointing both landward and seaward, so as to admit of vessels passing in or out at any time of tide, and whether the water be higher on the outside or inside.

We understand that Sir David Brewster has, within this last week, made two very remarkable discoveries, which promise to be of some use to science. In a new salt discovered by Dr. William Gregory, viz. an oxalate of chronium and potash, he has detected the extraordinary property, that one of its images formed by double refraction is of a bright scarlet, while the other image is of a bright blue color. In examining the pure liquid, any hydrous nitrous acid, prepared in the manner which is supposed to yield it in its purest state, he found that the acid actually consisted of two separate fluids, one of which was heavier than the other, and possessed a much higher refractive power.—When the two fluids were shaken, they formed an imperfect union, and separated again by being allowed to remain at rest. What the second fluid is remains to be investigated. It may perhaps turn out to be an entirely new substance. Its physical properties are now under investigation.—[Caledonian Mercury.]

[*Communicated for the American Railroad Journal.*]

HODDESDON, HERTFORDSHIRE, (Eng.) November 14th, 1833.

C. H. HAMMOND, Esq. Bennington, Vt.

Sir,—In the Railroad Journal of New-York, of 21st March last, Vol. 1, No. 13, I saw a copy of a letter from you to the Hon. George Tibbets, by which I am glad to see that the science of road making has attracted notice in America, and I am flattered by your approbation of the system which I have ventured to recommend to my country.

As an acknowledgment of my obligation to you for your favorable opinion, I take the liberty of explaining to you the difficulty, I had almost said the impossibility, of transmitting a proper and effectual knowledge of road making by writing, so as to convey such a body of information as will enable a person to act upon it in every case and on every emergency that occurs; and unless the party directing be possessed of this knowledge, he will be constantly in danger of misdirecting in some seemingly trivial matter that deranges the works and defeats the object contemplated. However well his theory may be based on true principles, a practical man must also know, intimately, the value of every species of service to be performed by workmen, as compared with the value of labor in the country; it is in vain to expect economy to be obtained in road making, unless the whole work be done by the laborers by piece-work. Whenever day labor is the system, extravagant expenditures and boundless profusion will be the consequence.

The sub-surveyor, whose duty it is to be constantly present where the work is proceeding, ought to be able to fix the price of work by weight or measurement, and to make fair and equitable bargains with the workmen, by which they may be enabled to earn the reasonable wages of the country, using a proper degree of industry; and the sub-surveyor ought to be a very good judge of the quality of the work, so as to insure to the public the proper value as well as quantity of labor for the money.

The sub-surveyor must have a perfect knowledge of what work is necessary to be done, and the manner and cost of its performance; he must be able to give to new and unpracticed workmen such instructions, and to supply them with such tools, as may enable them, with due industry, to earn fair wages at reasonable prices.

He must also have good practical experience in draining a road; difficult as it may be to explain the other branches of road making, this it is impossible to describe or to teach by any other process than experience, under a skilful person; the shape of the country, the section of the road, its situation in respect to the adjacent grounds, the nature of the soil, and many minor considerations, vary so often in every part of the same road and country, that the practice can be described and defined by no fixed rules or instructions. If the sub-surveyor be not a practically skilled drainer, the road he has the charge of will neither be good, durable, or preserved economically, unless his superior officer, the general surveyor, takes on himself this duty of directing the operation, which I and my family have been frequently obliged to do.

Our plan of distributing piece-work among the workmen is to employ them in gangs, never exceeding five men, one of whom, selected by themselves, is called the gangman, and with him the bargain is made by the sub-surveyor for pieces of work sufficient to employ the gang about a week, as no great loss or damage can happen in that time and on that quantity; if the gang do the work well, and earn fair wages by industry, they get another bargain; if idle, or disposed to slight the work, they are not again employed, by which means a road is in a short time supplied with good and expert workmen.

When the improvement of roads commenced in England in 1815, the cost of repairing the Bristol roads (178 miles) was about £19,000 annually, the roads then in such a condition as to be almost all under notice of indictment—at present the annual cost for repairs is about £13,000, including salaries for management.

I took the charge as general surveyor of the British roads in 1815, and was obliged to instruct all the sub-surveyors, (nine in number;) they again instructed others, by which process we obtained, after a few years, some skilful surveyors. We have found, experimentally, that from one to two years are necessary for instructing a sub-surveyor, according to his diligence and ability; and even when instructed, it is prudent to place him for some time near a more experienced surveyor, or more immediately under the inspection of the general superintendent.

The system followed by my family and myself is to take charge, as general surveyors, of a number of district of roads, or, as called in England, trusts; upon these we keep one or more surveyors, according to the number of miles and the work in each trust. We employ at present under my sons, grandsons, and myself, about a hundred sub-surveyors, and have in charge a considerable number of roads both in England and Scotland; but our system is by no means universal: many sets of trustees are attached to old surveyors, many to old practices. Economy and improvement have yet a great field to conquer in Britain—in your recent country you have fewer obstacles to encounter.

The importance of skilful and respectable superintendence in the officers of roads is ill understood in this country—deep-rooted abuses, old prejudices, and some great defects in our system of road law as to contract, have all contributed to prevent the whole benefit we might derive from good roads at a moderate cost, notwithstanding the experience of eighteen years.

I am not acquainted with the laws and regulations under which the roads in the United States are managed; perhaps their care depends upon the Legislature of each individual State, perhaps upon a still smaller subdivision of authority, whereby it may be difficult to make an exertion for attainment of the practical science necessary for the general interest; but if such an exertion could be made on an efficient scale, I am persuaded it would be of infinite benefit in producing immediately, at a reasonable expense, serviceable roads which could be upheld at a cheap rate. It would also prevent the introduction of improper plans of road work, which are frequently found difficult to be eradicated.

Should it be practicable to induce one or all of the States to attempt the introduction of a regular uniform system of road work and road management, on the most approved and economical plan, it would be necessary to send some persons to this country to serve an apprenticeship of not less than a year. Both classes of surveyors and sub-surveyors require the necessary practical information; their duties are distinct, although pointing to one object; their station in society ought also to be distinct.

The general surveyor should be a well informed young gentleman, entering into life with a value for character, and having connections and a station that would place him beyond the reach of suspicion himself, and give him the consequence and authority so absolutely necessary for the due discharge of his duty in defending the interest of the public, in addition to all the detail of the duties of a sub-surveyor, in which he ought to be thoroughly informed; he must be an expert accountant, so as to be able to keep an effectual and steady control over the weekly accounts of the sub-surveyors; compare the work done with the money paid, with such skill as to preclude the possibility of extensive imposition proceeding for any length of time undiscovered. This service can only be performed effectually by a gentleman perfectly qualified; and the sub-surveyors feeling themselves under the orders of an efficient officer, are attentive and careful in their conduct, but very soon throw off their circumspection when only under the authority of trustees, who occasionally, superficially and unskilfully, look into their accounts, and are quite unequal to the necessary task of comparing the extent and quality of the work done with the money expended, or of giving a little direction to the work when they find it defective.

Sub-surveyors should be selected from the class of yeomen in England—in America of respectable farmers: their early acquaintance with agricultural management has been found useful. The duty of the sub-surveyor is ministerial; he is to take the orders of trustees through the general surveyor, and to possess the skill and experience requisite to have the work performed in a proper manner, and at a fair price; to be able to measure work correctly, and to settle with the laborers. His knowledge of figures should be such as to enable him to keep an intelligible account, to fill up correctly the form of the weekly account which he will be furnished with, and to deliver it, in duplicate, every fortnight, to the general surveyor: one copy to be delivered to the treasurer, the other to remain as a record with the general surveyor, at all times open to the inspection of trustees and others intrusted.

Experience during eighteen years practice has instructed us in many particulars that appear trivial, but which we find to be very important in making a road solid, impervious to water, smooth in the surface so as to be easily travelled upon, and consequently kept in repair at a reasonable expense. Some theoretic opinions, at first adopted, have been corrected—others given up as erroneous; the science of road making is still capable of improvement for the benefit of mankind.

Your magnificent river, canal, and railroad conveyances, will not supersede common

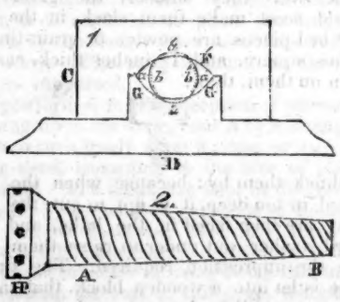
roads; those great works promote industry, wealth, and population. Communications must be multiplied to answer the increased demands of commerce, and connect those important works. America will require a number of stoned roads in proportion to the extension of her other great improvements; and it will in the end be greatly conducive to economy and good effect, if, at once, the states should take decided measures to have a certain number of persons practically instructed, which is the only instruction that will ever be found effectual.

Having resided fourteen years in America, and having seen the effect of severe frost and sudden thaws on roads, I am quite safe in assuring you that more skill and care in the construction of roads are required in America than in England.

I have read in the Railroad Journal of New-York, of 18th August, 1832, Vol. 1, No. 34, a kind of controversy, about a road called the Third Avenue: if that road be constructed as described by one of the disputants, I must say that there has been much labor and expense bestowed in giving the road every possible chance of being rough in the surface, and consequently inconvenient for carriages, and also providing abundantly for the mischievous effect of frost, by securing a lake of water under it, and the consequence of its erroneous formation will be great unnecessary expense.

In case of the adoption of any measures for sending persons from the United States to this country for instruction, they should be carefully selected from those who have had no opportunities of imbibing previous notions, or imagining that they have any knowledge of the work they are sent to learn.

I have the honor to be, sir,
Your most obedient servant,
JNO. LOUDON M'ADAM.



New Modification of the Power of the Screw.

By ϕ. M. [From the London Mechanics' Magazine.]

The printer has made an erroneous substitution of "*c* 200 and *d* 200" for "*c* 201 and *d* 200," in the article describing my proposed improvement of Hunter's screw-press, which has, I fear, rendered that article somewhat unintelligible. Before I proceed to notice the figures above, I beg to remind those who may take the trouble to read the article alluded to, that, as I stated, the construction given is not the best of several; I have one in reserve, which meets two capital objections, which I anticipated as likely to be urged against the practical utility of the improvement—one, the great apparent increase of friction, the other the danger of the square production of the screw twisting under a very severe strain. I beg to add further, that I estimate the power of the press, according to the data given, at upwards of 20,000 tons.

The prefixed figures represent what, I believe, is quite a new modification of the power of the screw; and one which will produce a greater amount of power, at less expense of friction, and with less complexity of construction, than any other. As the common screw is familiarly considered as a wedge applied to the circumference of a cylinder, so this may be viewed as a wedge applied to the circumference of a frustum of a cone, and may be called a conic or wedge-screw. AB is such a screw, tapering from A to B, and having precisely the same interval between all the turns of the thread. The head is furnished with holes for handspokes to work the screw with. CD is the nut, formed in two parts, which separate easily. The eye of the nut is a frustum of a hollow cone, accurately similar to the smaller extremity of the screw, as far as regards the angular inclination of the sides of each to their respective axes, as seen in a longitudinal section; but different in this, that when the screw is inserted into the nut, the former is only a tangent to the latter. When the screw is inserted and worked round, it gradually forces the parts of the nuts asunder until the thicker end has come between them, when the surfaces of the nut and screw must be found to coincide.

In the figure the arcs F F′ and G G′ are arcs of a sectional circumference of the thickest part of the screw. A section of the smaller end is seen as inserted in the nut; the dotted circle *b b′* is a section of the body of the screw, and the outer circle, *a a′*, &c. is one of the threads of the screw, partly seen, and partly hid by its engagement in the nut. This screw seems equal to any thing, either as a producer of force, or as a measurer of minute distances: it seems also to have this peculiar advantage, that the smaller the angle of inclination of the sides, viz. the greater the power exerted, the more the threads are relieved from the burden of the pressure. As a mover of weight, the following estimate may be made of its power:—

Taking the length of the screw at 3 feet, independent of what enters the nut before action, the number of threads in that length as 30, the distance from the centre of the head to the end of the handspoke at 4 feet, and the difference of the diameters of the greater and less ends at 1 inch, then the resultant power will be about 259,500 lbs. or upwards of 115 tons, taking the working-power at 30 lbs.

As a micrometer, I beg to add the following estimate of its performance:—

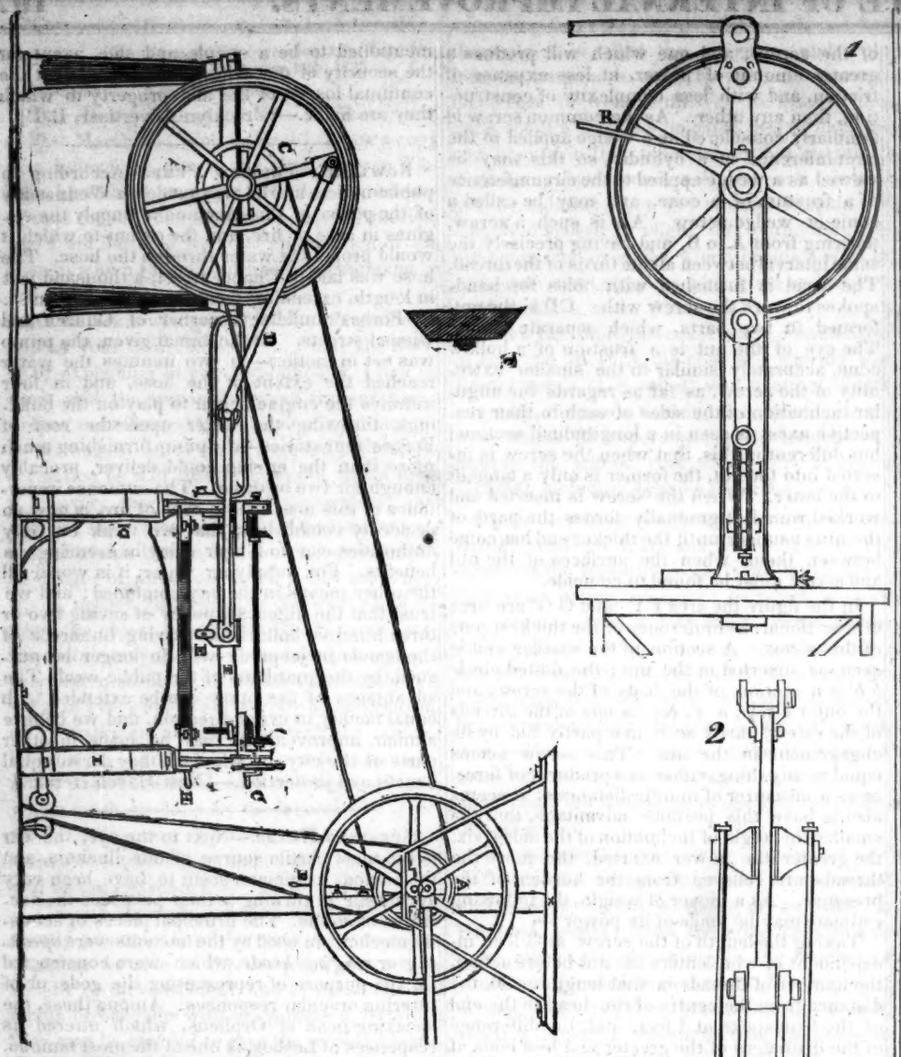
Taking the length of a quarter degree on a common seaman's quadrant at $\frac{1}{25}$ of an inch, the length of the conic screw at 1 inch, the difference of the sectional diameters of the ends of the screw, and $\frac{1}{250}$ of an inch, and supposing the head of the screw to be divided into 100 parts on its limb; then we shall have a degree divided to the $\frac{1}{8000}$th part, or into less than half-seconds, supposing the thread to make 20 turns in the inch.

SELF-ACTING FIRE ALARM.—An invention, christened with this name, was brought to this office last week for short exhibition. The purpose of the machine is to give timely alarm when fire occurs in any part of the house in which it is placed. Only one is necessary to a house of the largest size, and if rightly put up, cannot fail to give seasonable warning of the approaching danger. It is intended to be located in the sleeping-room of the "man of the house," and if desired, will also answer the purpose of a fashionable and convenient looking-glass. Its communication with the other apartments is accomplished by means of small cords, which pass entirely round each room in the upper corners of the walls, and are supported by small pullies. Whenever a room takes fire the string burns off, and this puts the "Alarm" in operation, and unless the tenant is an uncommon sleepy fellow, his house may be saved with very little trouble. A further description at this time, is perhaps unnecessary, as the advertisements and handbills already before the public may be referred to. As far as our opinion goes, we believe the invention above mentioned to be a simple and safe agent for the security of our fellow citizens against the continual losses of life and property to which they are liable.—[Brooklyn Advertiser, L. I.]

ROWLAND'S FORCING PUMP.—According to public notice, a trial was made on Wednesday of the power of this machine to supply the engines in case of fire, and the extent to which it would propel the water through the hose. The hose was laid in Chapel street, a thousand feet in length, extending from the mill in Union st. to Forbes' buildings, corner of Church and Chapel streets. At the signal given, the pump was set in motion—in two minutes the water reached the extent of the hose, and in four minutes the engine began to play on the buildings, throwing the water upon the roof of Forbes' four stories—the pump furnishing much more than the engine could deliver, probably enough for two or three. The immense importance of this machine, in case of fire, is now so decidedly established, that we think our city authorities can no longer delay in securing its benefits. For supplying water, it is worth all the other means in the city combined; and we trust that the niggardly policy of saving two or three hundred dollars and leaving hundreds of thousands in jeopardy will no longer be pursued, by the guardians of the public weal. The advantages of the pump can be extended with equal facility in every direction, and we believe similar improvements may be made in other parts of the city, by which all may derive equal benefit and protection.—[New-Haven Herald.]

SPEAKING HEADS.—Next to the eye, the ear is the most fertile source of our illusions, and the ancient magicians seem to have been very successful in turning to their purposes the doctrines of sound. The principal pieces of acoustic mechanism used by the ancients were *speaking* or *singing heads*, which were constructed for the purpose of representing the gods, or of uttering oracular responses. Among these, the speaking head of Orpheus, which uttered its responses at Lesbos, is one of the most famous. It was celebrated, not only throughout Greece, but even Persia, and it had the credit of predicting, in the equivocal language of the heathen oracles, the bloody death which terminated the expedition of Cyrus the Great into Scythia. Oden, the mighty magician of the North, who imported into Scandinavia the magical arts of the East, possessed a speaking head, said to be of the sage Minos, which he had encased in gold, and which uttered responses that had all the authority of divine revelation. The celebrated Gerbert, who filled the Papal Chair, A. D. 1000, under the name of Sylvester II, constructed a speaking head of brass. Albertus Magnus is said to have executed a head in the thirteenth century, which not only moved but spoke. It was made of earthen ware, and Thomas Aquinas is said to have been so terrified when he saw it, that he broke it in pieces, upon which the mechanist exclaimed, "these, Gods! the labor of thirty years."—Dr. Brewster supposes, that the sound was conveyed to these machines by pipes from a person in another apartment to the mouth of the figure.—[Sir D. Brewster's Letters on Natural Magic.]

NEW ELECTRO-MAGNETIC EXPERIMENT.—Professor Emmet, of the University of Virginia, has succeeded in so arranging the horse-shoe magnet as to enable him to obtain, at pleasure, brilliant scintillations, nearly as perfect as those produced by the flint and steel. The most remarkable discovery, however, is a sure mode of giving strong and even unpleasant shocks, which bear great resemblance to those from a voltaic pile of about 100 pairs of plates. Some other results, tending to show that this new force has properties intermediate between those of Electricity and Galvanism, have been obtained and will shortly be made public.—[National Gazette.]



Paper Ploughing and Stamping Machines. By Mr. Wm. Reed. [From the London Mechanics' Magazine.]

Peterhoff Paper Mill, near St. Petersburgh, August 23, 1831.

I now propose to give a description of a machine for ploughing five reams of paper at a time, which has been at work here nearly ten years, and is an invention entirely my own. I am not aware of there being any thing of the kind in England, owing, I believe, to the excise not allowing any paper to be ploughed at the mills, so that the stationers are obliged to get it ploughed by hand. In places where there are no such vexatious regulations, this machine will be found of great use. Two boys suffice to manage the working of it; and those here have got exceedingly expert in placing in and taking out.

I shall begin with first describing the principal working parts of the machine. Two riggers, A, are driven from below off one of the engine-woolers; and on the shaft there is a sliding clutch-box with a lever, marked B, for instantly stopping or starting the machine.—From one of the riggers a strap proceeds, which sets in motion the rigger C, with a fly-wheel and arm D, which being connected with the head with the knife, or cutter, E, causes it to slide along the bar F, which is of a triangular form, as represented in the section F'. G is a handle, by turning which, with the help of two pair of mitre wheels, fixed on a shaft, and the vertical screws attached to the bar F, the knife bar, &c. is made to descend. The mode of operating is as follows: On the machine table or platform, we place each ream on its beech-board, for the ploughing knife E to cut down to. We then lay on a sheet-brass gauge plate, and mark off with a pencil how much of the three external sides are to be cut away. The paper is then put on the machine, which has a sort of parallel ruler back, worked by two pinions and racks. The handle H is now turned towards the workman, and the pencil mark brought level with the front of a double iron straight-edge. The lower edge is fixed firm and level with the table; and at each end there is a 1½ inch cylindrical pin cut, with a double screw (for dispatch) and two brass nuts, of which the lower one is round, and works slack, being intended merely to hold the upper straight edge, while the reams are put in and taken out. When the paper is in its place, the under or counter nuts are run down an inch or so; the upper nuts, which are six-sided, are screwed down tightly, by two short spanners, on the five reams of paper, care being taken to screw both ends of the iron straight-edge down at one time. The lads broke three cast-iron straight-edges before they got well used to the machine, by not screwing down equally. The last one I backed with two half-inch bars, clamped on edgewise, and it has lasted years. It sometimes happened that one ream of paper was rather thicker than the others; but by slackening the bar, and putting two or three sheets of paper on the thin ream, the inequality was easily remedied; now such a thing seldom occurs. After one face has been thus ploughed, the clutch is detached by the lever B, and the handle G being quickly turned the reverse way, brings up the bar with the knife or cutter E. The upper nuts are then slackened, and the parallel back, by moving the handle H as required; after which the reams are turned, and again brought up to the straight-edge.

The table and sliding-back are made of mahogany, the frame I of fir. The frame which carries the fly-wheel and rigger C, &c. is of cast iron, and square at top and bottom, with four hollow fluted columns. The guide-wheel, mitre-wheels, and the sliding parts at the end of the bar and head, are of brass kept clean. The ploughing-knives, when new, are 10 inches long, 2 inches wide, and 3-8ths thick, requiring to be very flat on the face, and stiff. I make them of English cast steel, and when worn down to about 7 inches, they are considered as having done their duty, and are then worked up into other tools. Four or five will last a year. It may be proper to add, that the post or frame marked X reaches from the floor to the ceiling, for carrying the shaft, fly, and riggers A, and that the other end is fixed on an iron cradle. The knife makes 25 double strokes per minute of 4 feet 6 inches; if the machine worked quicker, it would heat the knife.

I take the opportunity of also sending you a description of a machine for stamping the paper at the corner, in three or six sheets at a time, which is worked in connection with the ploughing apparatus. It is of wrought iron, except the wheel, which is cast, and the whole is fixed firmly on a fine beech table. On the top of the frame are two stout iron rods, which help to support it from the thrusts, &c. A tapet on a short crank is put in motion from the shaft and rigger A (see ploughing apparatus,) and with the connecting rod, pushing the wheel to and fro, causes the cylinder (D, front view, fig. 2,) to rise about half an inch, which is sufficient. The peculiarity of this press is, that by one turn of the crank it makes two blows or impressions 50 times per minute. We before used a small hand press, but this is more expeditious, and saves a man, which is an object where men are scarce. In all parts of this machine, the axle and bolts are two inches thick: were they smaller, the great strain would soon make them slack in the joints. The bed-pieces are pewter or grain-tin, three inches square, and 1½ inches thick, cast with a pin on them, thus:

to chuck them by; because when the die is forced in too deep, it is apt to cut the paper. They are then faced in the lathe, and pasteboard washer put under to raise them up to give the impression required. The tin bed-piece is let into a wooden block, that takes in two parts, with feather-nuts on bolts, as shown in fig. 2. Yours, &c. W. Reed.

Canning's Life-Raft. By W. Baddeley. [From the London Mechanics' Magazine.]

Sir,—It is probable that during the last summer many of your readers may have seen on the River Thames, in the vicinity of New London and Blackfriars Bridges, a singular-looking machine, composed of spars and floated by barrels, the object of which was not very apparent.

The machine is, however, one of considerable importance to the maritime world, being a life-raft, invented by Mr. Alfred Canning, R. N. for the relief of persons in danger of shipwreck; and as a knowledge of its construction cannot be too widely circulated, I beg to submit the following description for insertion in your Magazine.

There are two forms of Mr. Canning's raft, as represented by figs. 1 and 2.

In fig. 1, A is a main-yard or other spar, with two cross-spars, *b b*, lashed near each end of it,

Fig. 1.

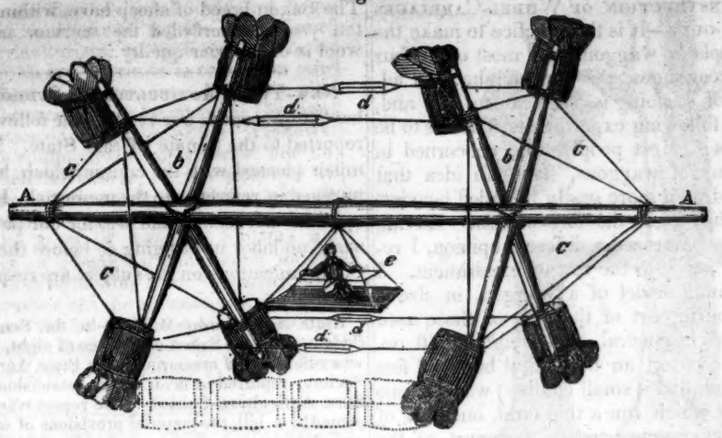
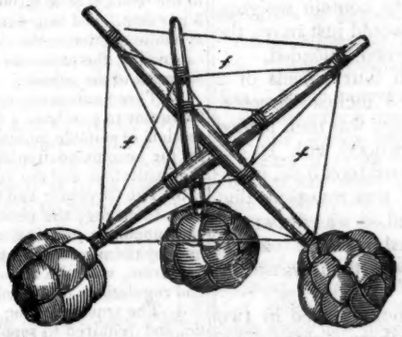


Fig. 2.



and kept in their places by the rope or stays *c c*. To give the necessary firmness to the machine, four of the ropes terminate in a loop at *d d*, through which a smaller cord is rove, and braced up *taut*.

The machine is floated by means of empty water-casks, one being attached to each end of the cross-spars *b b*. The projecting end of each cask is covered with a hammock, to protect them from being stove in by rocks, &c. &c. The number and disposition of the casks must, of course, be regulated according to the number of persons to be carried. When the number is great, it is advisable to place the barrels as shown by the dotted lines, to obtain sufficient buoyancy. The raft exhibited on the River was so supported.

A platform *e*, for the reception of passengers, is slung upon the main-yard A by a strong loop, so as to turn freely upon it; one or two loops being used, according to the size of platform required. The loops are kept in the middle of the yard by a chock on each side of them.

It will be observed, that only four of the casks can be immersed at one time, and the object of the inventor in using twice that number is to permit the raft to roll over, without any risk to the parties on the platform *e*; that being suspended as just described, so as to retain a horizontal position whichever set of barrels may be undermost.

Fig. 2 shows another modification of this raft. It is composed of three spars, lashed together crosswise at the middle, and braced up by means of the ropes *f f f*. To each end of these spars (for the sake of clearness, one only is shown in the drawing,) is attached an empty cask, or a cork-fender, to give a requisite buoyancy. If casks are used, they should be protected with hammocks, as before described. The persons upon this raft support themselves in the centre, holding on by the ropes, and shifting themselves whenever the raft rolls over.

It is right to state, that the merits of this raft do not rest upon fresh-water experiments: Mr. Canning having made numerous trials with it on various parts of the French and English coasts, with invariable success, particularly at Cherbourg and Jersey. At the former place, a raft of the description shown at fig. 1 was drawn out to the head of the jetty in very stormy weather: Mr. Canning having seated himself on the platform, the raft was turned adrift, and was driven by the wind across the mouth of the harbor upon the rocks, and was eventually thrown by the waves, high and dry, upon a shore of the most dangerous character, without any injury either to the machine or to Mr. Canning.

The machine possesses the requisite firmness and stability, with just so much elasticity as is necessary for its safety. It carries the persons on it higher, and consequently drier, than any other raft; and is perfectly safe and certain on shores, where a life-boat would inevitably be dashed to pieces. The materials of which it is composed are such as may be found on board almost every ship, and the raft may be put together in a comparatively short period of time.

When a vessel has been wrecked on a lee-shore, and a communication formed by means of Captain Manby's apparatus, or the more recent improvements of Mr. Murray, this raft would be found a most eligible mode of landing the crew.

Mr. Canning, some time since, exhibited and explained the construction of his raft, in a lecture delivered to the members of the Mechanics' Institution, in which he gave an interesting account of several of his experiments in different places, and expressed his readiness to put to sea in the severest storm, on any part of the British coast; thereby showing his perfect confidence in the safety and efficiency of his simple life-raft.

The Society of Arts have presented Mr. Canning with their large silver medal, as a token of the high opinion they entertain of the ingenuity and utility of his contrivance; and *I guess* it will be some time before they have an opportunity of rewarding another of equal merit.

There is a factory near Hartford, (Con.) where they finish from the bar iron, 700 axes per day. They have a machine with which the head or hole of the axe is formed, and made ready for the reception of the steel after but a few strokes of the hand hammer. They are formed in this manner in four or five seconds. This establishment was commenced less than six years ago; there are now not much less than 100 houses, all occupied by the workmen—all having the appearance of great neatness and comfort.

AGRICULTURE, &c.

Culture of Silk important to Country Practitioners. By T. D. M. [From the Medical Gazette.]

As the general scope of the Medical Gazette embraces all the important objects of natural history, I know of nothing that is calculated for general utility more deserving of notice than the culture of silk. This subject is one of growing interest, and cannot fail to excite universal attention in these United States. But to no class of the community it is likely to prove more advantageous than to country practitioners, who own a small piece of land, and who have time enough to spare at the proper season to give full attention to the subject. Indeed, the active duties, connected with this culture, require not more than about six weeks in the year, and the whole of that time is embraced in the season in which medical men have but little professional business. I am satisfied that a country practitioner could not possibly appropriate an acre or two of his land, nor six weeks of his leisure time, to so good advantage, in any other project, as in the culture of silk. For one dollar, he may procure all the necessary information relative to this matter in sufficient detail, in a small volume, to be had in all our bookstores, entitled *A Treatise on the origin, progressive improvement, and present state of the Silk Culture.* To give an idea of the profits of this business in a few words, the following remarks of a practical man, who has had great success in this enterprize, in Philadelphia, are here submitted:

"An acre of ground will produce 90,000 lbs. of leaves—which, if sold on the tree, at a half a cent per pound, will produce $450; or if sold, delivered, at one cent, produce $900. This would produce thirty-seven hundred pounds of cocoons, which, at twenty-five cents per pound, (with the moth,) is $925. The same quantity well reeled, produces four hundred and twenty pounds of raw silk, which, at three dollars per pound, the price of the China silk here, makes $1,260: if, however, reeled and fitted for the European market, would produce, at six dollars per pound, $2,500."

We earnestly request our medical brethren, who are wont to complain of bad debts and hard times, to give this subject their serious consideration. The culture of silk must, at no remote period, be introduced extensively in the West, and it cannot fail to be a source of great emolument.

Procuring Two Crops of the Ash-leaved Kidney Potato, in One Year, off the same Ground.—In each of the last two years I have grown two crops of the ash-leaved kidney potato on the same ground, and each of the crops has been a good one. I proceed thus: In taking up the first crop, I bury the tops or herbage in the trench, by turning the earth between the rows upon them, and this done, the ground is ready to be planted again. My first crop this year was planted on the 30th of March, and my second on the 13th of July; the second has been as good as the first, and the potatoes are perfectly ripened: the joint produce of the two crops has been fully at the rate of 960 bushels an acre. I took some of the pota-

toes of the second crop, of nearly the full size, to market on September the 15th.—[Loudon's Magazine.]

Old Pear Trees.—In the town of Farmington, Connecticut, there grew about a dozen old pear trees, all grafted, as was manifest from the cicatrix around their bodies, and all bearing the same kind of fruit. One of them grew on a lot which, for several generations, belonged to my ancestors. My grandfather, who was born about the year 1700, said that, when he was a boy he used to climb the tree with caution, because the limbs were old. I have known the tree for about fifty years, and it has suffered no material change. The fruit was above the ordinary size—long, bell-shaped, green, very sweet and juicy. I have never seen of the kind any where else, unless taken from one of those old trees, nor have I ever heard any other name than that of the Farmingham Summer Pear. Who was kind enough to graft and plant those trees, tradition cannot tell. The fruit was apt to be knotty and defective, arising from the age of the trees, but I have seen a young tree in the garden of Dr. Norton, of Clinton, Oneida county, which bore fruit smooth and fair.

Political Economy.—The following estimates from the Family Lyceum are worthy of general attention; they would furnish our legislators with more available data than many of the pages of Adam Smith.

"The interest of the money expended in erecting a prison at Philadelphia is sufficient to pay the tuition of 10,000 children at infant schools.

"The expenses of the militia of Massachusetts is not less than half a million annually, which is more than sufficient to establish a Lyceum Seminary, or self-supporting school, in every county in the state, at 30,000 dollars each. The one expenditure designed to enable men to kill and devour each other; the other designed to aid each other in every good work.

"In Ohio, and the other western states, those towns which, at their commencement, from twelve to fifteen years ago, established schools and public worship, are now accommodated and ornamented with good roads, comfortable dwellings, framed, two stories, and painted, with commodious barns, productive orchards, safe enclosures, and above all, with intelligent, moral, and refined society; while those which have been settled from 20 to 30 years, and have neglected schools and churches, have few buildings but log houses, with one room, no roads but such as nature furnishes, no orchards, no barns, and little cultivated land except a few acres around their cabins sufficient to raise corn for their bread; and they are even unable to find time to comb their children's heads or wash their faces.

"Throughout New-England, those towns whose citizens have erected for their schools commodious houses have been able also to erect for themselves neat or elegant dwellings. While those which are unable to build school-houses, are also unable to erect dwellings, except plain, unpainted, one story buildings. Where they are able to erect churches at an expense of five or seven thousand dollars, they are able to ride in chaises, worth $250, while those who have the poorest churches ride to them in waggons, on horseback, or go on foot."

Misconstruction of Wheel-Carriages pointed out.—It is the practice to make the hind wheels of waggons, and most other four wheeled carriages, the highest; but the advantage of so doing is not clear to me, and, from the following experiments, it seems to be erroneous: Most people, too, concerned in the loading of waggons, have an idea that they are drawn more easily if loaded heaviest before, that is, on the fore-wheels. Having long since embraced a different opinion, I resolved to put it to the test of experiment. I made a small model of a waggon, in size a twenty-fourth part of the size of those used by farmers in general, and weighing 10 oz. This I placed on an horizontal board, 3 feet long, which had a small (pulley) wheel at one end, over which run a thin cord, one end of which was fastened to the fore-part of the waggon, while from the other end there was suspended a small scale to contain weights, which of its own weight would just move the waggon along the board when unloaded.

The first trial was with four wheels of 2 inches, and hind ones of 3 inches diameter. The fore part of the carriage was then loaded with 33 oz. and the hind-wheels with 16 oz. To move this along the board took 5 oz. in the scale. When the loading was reversed, that is, 16 before and 32 behind, it was drawn by 4 oz. It was next loaded with 32 oz. on each pair of wheels, and was then drawn by 6 ounces.

The fore-wheels were next placed in two hollows sunk in the board three-eighths of an inch deep, loaded as in the first trial. The carriage was drawn out by 29 oz.; when the loading was reversed, as in the second case, it was drawn by 21 oz.; when loaded equally, as in the third case, it was drawn by 33 oz.

The hind wheels were then taken off, and their places supplied by a pair of equal diameters with the fore ones, namely, 2 inches.

Loaded as in the first, second, and third instances, it took to move it along the level nearly the same weights; but when the fore-wheels were placed in the hollows, it took less by 4 oz. each trial; when the loading was reversed, and made equal, the results were as before.

The pulley-end of the board was then elevated to an angle of 33½ degrees with the horizon, which is nearly equal to that of a hill rising 4 inches in the yard; if loaded as in the first instances, the carriage required to draw it up 13 oz.; loading reversed (as before) 15 oz; equal, 14 oz.; wheels in the hollows, nearly as before.

To the above may be added the very great uneasiness occasioned to the shaft-horse, when either of the fore-wheels meets with any obstruction from stones, &c. and which is evidently increased in proportion to the smallness of the circumference.—E. Vialls.

Peculiar Method of Turning Wool into Fur.—The wool-growers of Podolia and the Ukraine, and also in the Asiatic province of Astrachan, have a peculiar method of turning wool into fur. The lamb, after a fortnight's growth, is taken from the ewe, nourished with milk and the best herbage, and wrapped up as tight as possible in a linen covering, which is daily moistened with warm water, and is occasionally enlarged as the animal increases in size. In this manner wool becomes soft and curly, and is by degrees changed into shining beautiful locks. This is the kind of fur which passes under the name of Astrachan, and is considered on the continent as the most genteel lining in winter cloaks. Similar trials with German sheep have been attended with the same success. The Saxon breed of sheep have, within the last ten years, superceded the merino, and their wool is of superior quality.

New-York Agricultural School.—We have to present to our readers the following bill reported to the Senate of this State. We are much pleased with the course which has been pursued in reference to the memorial. It is now open for discussion, and we, for our part, shall spare no labor in bringing it before the public. Communications on the subject are respectfully solicited.

State Agricultural School.—In the Senate Mr. Sudam, from the Select committee of eight, to which was referred the memorial of the State Agricultural Society, reported in favor of the establishment of a State Agricultural School. The report was accompanied by a bill, the material provisions of which are as follows:—

1. The Comptroller to issue certificates of stock to the amount of of $100,000, bearing an interest of 5 per cent., and redeemable in 20 years, to be sold at public auction in the city of New York, to the highest bidder, the proceeds to be appiied to the establishment of the school.

2. Three commissioners to be appointed by the Governor to purchase a farm and contract for the erection of suitable buildings for a school, sufficient for the accommodation of 200 pupils, the officers of the institution, and the servants for the farm.

3. The Governor and Senate to appoint seven trustees, to manage the concerns of the institution, who shall appoint a principal teacher and ovorseers, and employ the necessary laborers and assistants, and to prescribe, with the advice of the principal, the police and regulations of the school.

4. The trustees to be a body corporate and politic, and required to report annually to the legislature or Regents of the University, a full statement of the condition of the institution in all its branches. No pupil to be admitted into the school under the age of 14 years.

Mr. Sudam said it was not the intention of the committee to press the bill to a third reading at this session. They only desired that it be discussed; and that the report of the committee, and the views of those friendly to the measure, should be spread before the public, for the purpose of enabling the next legislature to judge whether it met the approbation of the citizens of the state.—[Argus.]

Mode of Thrashing in Germany.—A laborer's hire is his meat and two goschens, about two pence half-penny a day, unless he happens to be employed in thrashing, in which case he usually makes a contract for a sixteenth measure of the whole quantity of grain he thrashes out. As the entire village resounds from end to end with this operation, I shall state a few particulars respecting it which are likely to escape a more fugitive traveller, or one less curious in "re-rustica." Thrashing here is executed with a skill unknown to a less musical people. To be an expert thrasher it appears to me as requisite to have had a thrashing master, as a master for any other given art or accomplishment. They thrash with a perfect regard to time, in all the alternations of triple and common measure, making the transition from one to the other with the greatest exactness. There are some times no fewer than seven or eight flails in concert; when it is a simple quarter, and one of the performers happens to drop out, which is frequently the case, the transition is immediately, and without the least interruption, into triplets. Occasionally the effect is graced by some very delicate gradations of forte and piano, raliemando, crescendo, morcendo, accellerando—and the whole executed with as much precision as if a note book lay before each performer. When the piano is to be particularly delicate, the tips of the flails are used, which affords an opportunity of combining grace with dexterity; it is then the merest scarcely audible tap, and costs the least possible effort. Then comes the crescendo, swelling into a tremendous barn-echoing staccato—downright thrashing in fact; and what I particularly wish to enforce upon the farmer, the flail during the whole movement is never raised

higher than the head, which I could not help especially taking a note of for the good of our practical agriculturists, when I recollect how much unnecessary brawn is expended on our thrashing floor to no purpose. Thus we see his genius for music never forsakes the German in any situation or occupation of life; it follows him into his commonest employments; and no doubt is their advantage, on the principle of "studio fallente laborem," in making it in all similar exertions an arithmetical operation. What is the story of Amphion building his Thebes, but an allegorical illustration of the same benefit of lightening labor by music? The German thrasher has the advantage of the Theban architect, for he turns the labor itself into a kind of music, though somewhat monotonous to be sure.—[Sir A. B. Falkner's Visit to Germany.]

To prepare Starch from Potatoes.—Grind a quantity of potatoes into a pulp by rubbing them on a plate of tin in which a number of holes have been made, then put them into a hair sieve, and pour cold water over them as long as a milky liquid passes through. This liquid is to be received into a basin, and when a whitish powder has settled at the bottom, the liquid is to be poured off it, and the powder repeatedly washed with spring water, until it becomes perfectly white. When the last liquor has been poured off, the basin is to be placed in a warm place till the starch be perfectly dry.

Observation.—Twenty pounds of good potatoes, treated in this way, generally yield about four pounds of starch.

A Million of Facts—*By Sir Richard Phillips.*—Among the clever books recently received from London, is one with the above title, containing a vast variety of information in a small space. It has been announced for publication by Mr. Conner, of New-York.

The sea is to the land, in round millions of square miles, as 160 to 40, or as 4 to 1.

There are 7,700 veins in an inch of colored mother-of-pearl. Iris ornaments of all colors are made by lines of steel from 200 to the $\frac{1}{1000}$ part of an inch.

Bodies are transparent, says Newton, when the pores are so small as to prevent reflection.

The apprehension of the failure of a supply of coals in England is delusion. In Yorkshire alone, there are exhaustless beds, which are sold at 4s. or 5s. per ton.

The coal mines, which in Staffordshire have been burning for 200 years, consist of pyrites, subject to spontaneous combustion. Water will not extinguish them, because when drawn off, or absorbed, the pyrites burn more than before.

The odorous matter of flowers is inflammable, and arises from an essential oil. When growing in the dark their odor is diminished, but restored in the light; and it is strongest in sunny climates.

The height of mountains in the moon is considerable; ten are five miles or nearly; and eight are from 3 to 4 miles. Three of the hollows are from 3 to 4 miles; ten are from 2 to 3 miles, and as many are nearly 2 miles.

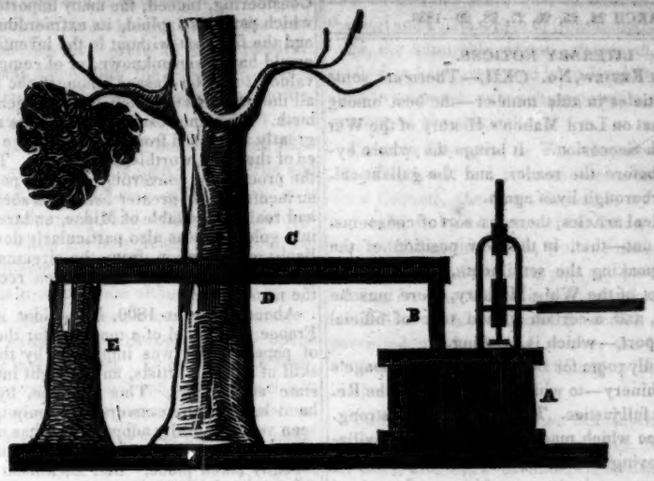
Teeth are phosphate of lime and cartilage, but the enamel is without cartilage.

The number of ribs vary, being twelve or thirteen on a side.

The muscles of the human jaw exert a force of 534 pounds, and those of mastiffs, wolves, &c. far more. The force is produced by the swelling of the muscles in the middle, and dilating again.

A chesnut tree grew at Tamworth, which was 52 feet round; it was planted in the year 800; and in the reign of Stephen, in 1135, was made a boundary, and called the great chesnut tree. In 1759, it bore nuts which produced young trees.

Botanists record 56,000 species of various plants; and 38,000 are to be found in the catalogues.



Application of Bramah's Pump to the Eradication of Stumps of Trees. By F. H. [From the London Mechanics' Magazine.]

Sir,—Your correspondent, Mr. Hounds (p. 98,) inquires for a machine to render the clearing of the woods more easy to the emigrant, and seems to think something in the shape of a circular saw most likely to supply the desideratum. Now, sir, I have always understood that the axe, in the hands of a skilful woodsman, is as efficient an instrument as need be desired for the mere clearing, but that it is the stumping, or getting up the roots, which is the most difficult part of the business, and for which some new process is the most imperiously required. The usual way, I believe, is to leave the stumps in the ground until they become rotten in the course of nature, which takes several years, during which the settler has to plough round them. Those who have capital sufficient make use of machinery, set in motion by horses or oxen, to pull out the roots at once; but this process is of course out of the reach of the poorer classes of emigrants, who have very little money to spare for implements, and none for live stock. To this class, perhaps, a machine like that represented in the prefixed figure might prove of essential service. Its cost would not be very great, and its application would be particularly easy:—

A is a Bramah's pump, from its great power and simplicity the best moving force for the purpose.

B the solid piston, on which is placed one end of

C, a strong beam of timber, fitting in

D, a notch cut in the tree to be felled. The other end rests on

E, the stump of a tree, or other convenient block, near the tree operated upon. When the pump is worked, the beam C will of course be raised, and the tree must necessarily rise with it. It might perhaps be requisite to dig a little round the roots, and to cut some of the principal ones, but of course the power exerted might be increased to an immense extent, by employing a longer beam, so as to gain a very long leverage. If not used to fell, or rather to raise a growing tree by the roots, this machine might be of great service in extirpating the stumps, by means of an arrangement similar to that employed in drawing the piles of Waterloo Bridge, as described by Mr. Davy, in vol 13, page 184, of the Mechanics' Magazine.

Another correspondent, P. M., (also on page 98,) has proposed a plan for transmitting ready-made cottages to Australia. The usefulness of this may be doubted, especially when it is recollected that a wooden house, which was sent out to New South Wales at the first establishment of the colony to serve as a hospital, took *several months* in erecting at its place of destination, although it had been put together in London in a few hours! Besides, it will never pay to carry a ready-made house *more* than 10,000 miles. Yours, &c., F. H.

June 8, 1832.

Formation of Character.—A taste for useful reading is an effectual preservative from vice. Next to the fear of God implanted in the heart, nothing is a better safeguard than the love of good books. They are the hand-maids of virtue and religion. They quicken our sense of duty, unfold our responsibilities, strengthen our principles, confirm our habits, inspire in us the love of what is right and useful, and teach us to look with disgust upon what is low, and grovelling, and vicious. It is with good books as it is with prayer; the use of them will either make us leave off sinning, or leave off reading them. No vicious man has a fondness for reading. And no man who has a fondness for this exercise is in much danger of becoming vicious. He is secured from a thousand temptations to which he would otherwise be exposed. He has no inducement to squander away his time in vain amusements, in the haunts of dissipation, or in the corrupting intercourse of bad company. He has a higher and nobler source of enjoyment to which he can have access. *He can be happy alone;* and is indeed never less alone, than when alone. Then he enjoys the sweetest, the purest, the most improving society, the society of the wise, the great, and the good; and while he holds delightful converse with these, his companions and friends, he grows into a likeness to them, and learns to look down, as from an eminence of purity and light, upon the low-born pleasures of the dissipated and profligate.

The high value of mental cultivation is another weighty motive for giving attendance to reading. What is it that mainly distinguishes a man from a brute? Knowledge. What makes the vast difference there is between savage and civilized nations? Knowledge. What forms the principal difference between men as they appear in the same society? Knowledge. What raised Franklin from the humble station of a printer's boy to the first honors of his country? Knowledge. What took Sherman from his shoemaker's bench, gave him a seat in Congress, and there made his voice to be heard among the wisest and best of his compeers? Knowledge. What raised Simpson from the weaver's loom, to a place among the first of mathematicians; and Herschel, from being a poor fifer's boy in the army, to a station among the first of astronomers? Knowledge. Knowledge is power. It is the philosopher's stone—the true alchemy that turns every thing it touches into gold. It is the sceptre that gives us our dominion over nature: the key that unlocks the store of creation, and opens to us the treasures of the universe.

Fraimhoifer, in his optical experiments, made a machine in which he could draw 32,000 lines in an inch breadth.

NEW-YORK AMERICAN.

MARCH 23, 25, 26, 27, 28, 29—1833.

LITERARY NOTICES.

EDINBURGH REVIEW, No. CXII.—There are some admirable articles in this number—the best among them being that on Lord Mahon's History of the War of the Spanish Succesion. It brings the whole bygone period before the reader, and the gallant chivalrous Peterborough lives again.

In the political articles, there is a sort of consciousness peep'ng out—that, in the new position of the Review, as speaking the sentiments, or being supposed so to do, of the Whig Ministry, there must be some reserve, and a certain air and tone of official dignity in its port,—which is amusing.

We have only room for two extracts, on Babbage's book on Machinery—to which, by the way, the Review does not full justice. The first sets forth strongly the influence which machinery has had in civilizing and improving mankind; the second presents a remarkable instance, in the manufacture of paper, of the perfection of a machine.

We have been so long acoustomed to make use of the most complicated and expensive machines, that we have in a great measure forgotten how much we owe to those that are simpler and cheaper, but not less powerful or useful. The truth is, that we hardly do any thing—that we cannot so much as make a pen, snuff a candle, mend a fire, or dress a beefsteak—without resorting to machinery. We are so much identified with it, that it has become, as it were, almost a part of ourselves. Agriculture could not be carried on, even in its rudest form, without spades and hoes; and the horse had to be domesticated, and iron smelted and forged, before the plough could be introduced. Civilized man is, in fact, indebted to tools and machines, not for an increase of power merely, but for almost every thing that he possesses. Perhaps not one in a thousand of the arts practised amongst us could be carried on by the hand only. Those who investigate the history of the human race, who trace their slow and gradual progress from their lowest and most abject to their highest and most polished state, will find that it has always been accompanied and chiefly promoted by the invention and improvement of tools and engines. What, we ask, has falsified all the predictions of Hume and Smith, as to the increase of the public debt, and enables us to support without difficulty a load of taxes that would have crushed our fathers, as it would crush any other people? This wonderful result has not assuredly been owing to any peculiar sagacity on the part of our rulers, nor to the miserable quackery of sinking funds, custom-house regulations, and such like devices. There cannot, indeed, be the shadow of a doubt that it is to be wholly ascribed to the stupendous inventions and discoveries of Hargraves, Arkwright, Watt, Wedgwood, Crompton, Cartwright, and a few others. These added so prodigiously to our capacities of production, that we went on rapidly increasing in population and wealth, notwithstanding an expenditure of blood and treasure unparalleled in the history of the world. It is believed that an individual can at this moment, by means of the improved machinery now in use, produce about 200 times the quantity of cotton goods that an individual could have produced at the accession of George III. in 1760! The improvement in other branches, though for the most part less striking than in the cotton manufacture, is still very great; and in some, as in the lace manufacture, it is little if at all inferior. The high and conspicuous place we occupy among the nations of the earth, is not owing to our possessing a greater population, a finer climate, or a more fertile soil; but to the superior art we have evinced in aviling ourselves of the powers of nature. This has multiplied our resources, and increased our power in a degree that was not previously conceivable. It is not going too far to say that we have, at the very least, derived ten times more advantage from the spinning-jenny and the steam-engine, than from all our conquests in India, though these have added nearly 100 millions of subjects to our empire.

In illustrating the use of machinery in converting apparently useless and worthless substances into valuable products, Mr. Babbage refers to the skins used by the gold-beater, and to the production of the prussiate of potash from the hoofs of horses and cattle, and other horny refuse. It is singular, however, that he should not have referred, either in this, or in any other part of his work, to the manufacture of paper. Considering, indeed, the many important purposes to which paper is applied, its extraordinary cheapness, and the fact that without it the invention of printing would have been unknown, or of comparatively little value, it may be classed amongst the most useful of all the products to which human ingenuity has given birth. The interest attached to its manufacture is greatly increased from the knowledge that it is formed of the most worthless materials. The inventor of the process for converting rags into paper, conferred an incomparably greater benefit on society, than if he had realized the fable of Midas, and transmuted them into gold. It was also particularly deserving of Mr. Babbage's attention, from the circumstance of very great improvements having been recently made in the manufacture.

About the year 1800, Mr. Didot imported from France the model of a machine for the manufacture of paper, which was improved by the mechanical skill of English artists, and brought into an effective state about 1808. This machine, by superseding hand labor in the conversion of pulp into paper, has been very generally adopted, and has materially promoted that extension of the manufacture which has recently taken place. Mr. Dickinson of Hertfordshire, one of the most ingenious and inventive of our practical mechanists, has constructed another machine which performs the same operation by a different method; converting a stream of fluid pulp into a web of dry paper, completely finished and ready for the press, within a distance of about twenty-seven feet, and in about *three minutes* time! The machinery by which this all but miraculous result is effected, is so ingeniously contrived and admirably adjusted, that the continuous sheet of paper, which in its first stage appears like a wet cobweb, hardly capable of cohesion, is drawn forward over various rollers, from one stage of the process to another, at the rate of thirty feet per minute. We are not aware that much difference has taken place for a long period in the machinery for converting rags into pulp; but the present process, which is different from the original method of beating out the rags, has this drawback on its economy and despatch, that it breaks the fibre, and renders the paper less tenacious and durable.

From the London Spectator we transfer the annexed remarks upon a book now in the press of the Harpers' here for re-publication—and which we confess our eagerness to see. The extracts made from it by the Spectator, bear principally upon the state of slavery in the Southern States, and upon particular instances of the cruelties practised under it, which the writer witnessed in Charleston and in New Orleans. Of these he speaks as every just and feeling man must who has lived in a country where the curse of slavery is only a distant evil; but we do not think it necessary to copy them.

Stuart's Three Years in North America.—At length a British traveller has returned from the United States who *ought* to have gone there. At length we have a full, a fair, a deliberate account of that great country: not a eulogy; not in any respect rhetorical, or poetical; sparing of epithets, but copious in facts; giving character by actions, describing by a report of occurrences.

Both by reason and experience it would appear, that the duly accomplished traveller in North America must be no common man: his qualifications are peculiar—most peculiar for an Englishman, He must be thoroughly rational and unprejudiced on the great subjects of government and manners: he must have discarded the common aristocratic habits of his native land, arising from the great difference that exists at home between man and man: in a country devoted to discussion, he must be able to reason calmly and clearly; amongst a people greedy of information, he must have some to give: in a state devoted to affairs, he should have some knowledge of business, and more particularly of agriculture, necessarily the grand business of a nation occupying a territory of enormous and indefinite extent. On the very face of his book, the author of this work is the man thus predicated; on other grouuds, the same conclusion might have been come to. The name is not one unknown in Scotland. For many years Mr. Stuart was a representative and supporter of Liberal principles in Scotland, when it was no holyday work to keep the sacred fire of Liberty alight. Where any thing was to be done, there was he; when any thing was to be said, he was in his place; and all that the energy, courage, perseverance, and talent could effect, was effected by him. It was his prominence in the ranks—not the busy bustling of vanity and self-importance, but the modest prominance which zeal for a good cause joined with moral energy always gives—that brought upon him the attacks of a most rancorous and unsparing party,—the old Tories of Scotland; who at one time, had it not been for such men as Mr. Stuart, would in that country have trampled both Liberty and Liberals under foot. It was but a wretched copy of verses that brought about the meeting between Mr. Stuart and Sir Alexander Boswell, which ended so fatally to the latter; but it had been found absolutely necessary to make a stand against the virulence of men who in their fury spared neither private nor public fame. This duel was a bitter necessity; but for Mr. Stuart it had the advantage of proving him, by means of overwhelming testimony, in possession of one of the noblest characters in the country. Subsequent to his trial and most honorable acquittal, the vast changes in the value of land, in which, like many others, Mr. Stuart was deceived, produced a change in his fortunes; and it seems to have been with some view of transferring his residence from Great Britain to America that the travels herein described were undertaken. He has, however, returned: let him not again be permitted to wander without *public credentials*. Shame that such a man should be allowed to leave a country which his exertions have so largely contributed to put in the way of good government; shame that such a man should depart to seek a foreign home, and leave others to reap the harvest he toiled so industriously to sow!

But to our book.

Mr. Stuart left England for the United States in July, 1828, and sailed from New York on his return in April 1831. During the period between these dates, he travelled and resided in almost every part of the Union—at least all in which his countrymen are most likely to be interested. From New York he proceeded up the Hudson to Niagara; thence into the Canadas; on his return, he crossed New England; afterwards he visited the Eastern and Southere States; from New Orleans proceeding up the Missisippi to Louisville, visiting the Illinois and Indiana States, crossing thence to the Alleghany mountains, and returning through Washington. This is the merest outline of the route, and does not include any of the numerous excursions and deviations which the author made for the purpose of more accurately informing himself of the state of the country. Mr. Stuart's familiarity with rural affairs, makes his reports on the Illinois and other Western States in the valley of the Mississippi of peculiar value. Indeed, the chapter on Illinois ought to be pointed out as containing indispensible information, not to be procured elsewhere, to all who are thinking of emigration. The report on the great Prairie countries is full of interest, and even of novelty. Mr. Stuart visited all the new settlements of the emigrants; and his account will be not a little gratifying to the friends of those who have gone out, and not a little encouraging to those who propose to follow them.

Mr. Stuart mixed with all classes, freely and pleasantly; was always well received; and seems in most cases to have separated with regret from his American friends, after a mutual interchange of good offices and solid information. Mr. Stuart does not omit to notice the difference existing in the manners of the two countries, or to censure practices which he disapproves, when such occur: this, however, is but rare, for Mr. Stuart, like other sensible persons, knows that habits and manners are as naturally the growth of circumstances, as vegetation is the modified production of the soil and the climate. Looking, therefore, upon this extraordinary people with a mind perfectly free from prejudice, and a disposition rather to discriminate than censure, we are not to be surprized that the effect of Mr. Stuart's work is far more favorable to the Americans than any account hitherto published. The favor, however, is not shown in praise, but rather in the direction taken by Mr. Stuart's observations: being neither idle, ignorant, nor ill-natured, he has neither laid himself out to listen to foolish boasts, nor exposed himself to the provocation of insulting comparisons, by an exhibition of contempt or an ostentation of a difference of habits of thinking and acting: he has looked to the doings of the Americans rather than their sayings; and having something to converse about, these sayings are of a very different character from the reports of other leas qualified travelers. Neither was Mr. Stuart terrified by the bugbear of Democracy; he could look the tremendous majesty of the people in the face, and not be either abashed or alarmed.

There are no theories in this work—no scenes—no satire; it is not a series of controversial dialogues flavored with spite and prejudice, like Captain Hall's work, nor a mere libel, like Mrs. Trollope's: it is a

mass of facts and observations, with such a commentary on them as good sense would dictate, or their nature render necessary to their being thoroughly understood and applied. Mr Stuart has been careful as well as curious in selecting those little circumstances, and those floating documents, whether in newspapers or other publications, which indicate the state of a country, like straws thrown up to show the course of the wind. This work is very abundant in those little extracts and selections, which often in three lines tell us as much as a traveler could in a page.

The form of a book is the lively and *real* form of the Diary. The notes have all the fulness and freshness of immediate impressions upon them; they appear to have been taken on the spot, though subsequently to have undergone a careful revision.

We add to this view of the Spectator some introductory remarks of the Edinburg Review upon the same work, and upon the claims and character of its author:

Its author, though accustomed to mix in better society than nine out of ten of the foreigners who have visited the United States, does not affect to be disgusted with a great, a growing, and a happy people, because hotels, and the houses of opulent individuals, are not crowded with obsequious waiters and lacqueys—because it is customary for strangers to live in boarding houses—because gentlemen prefer business to wine after dinner—or because the waiters must be civilly spoken to, and would refuse, instead of demanding, attendance-money. He seems to have thought that the well being of the great mass of the people, the comfort and intelligence of those engaged in manual occupations,—and the respect everywhere paid to talent and eminent public services—might in some measure atone for the want of dukes and duchesses, and all that beautiful gradation of ranks, which, passing through Bishops with £15,000 a-year, and rectors with £5000, ends in paupers and mendicants. Mr. Stuart had neither Captain Hall's patrician horror of democracy, nor Mrs. Trollope's affectation of gentility, nor Miss Wright's love of scepticism and spit-boxes. His object was to give a fair account of the country, without either exaggerating or concealing the good or bad qualities of its inhabitants; and we think he has been eminently successful. Having, with his wife, passed three years in America, and having leisurely travelled over the country, and mixed with all ranks and orders, from the President to the "Helps" in boarding-houses, he had peculiar opportunities for forming an accurate estimate of the character and manners of the people; and of the working of their government and municipal institutions. Of these opportunities he did not fail to avail himself; and we venture to say, that such readers as can relish an honest account of an extremely interesting country, written in an unpretending style, will not easily find a more acceptable book than the one we have just recommended to them.

Another book on America, and by a Scotchman too, is announced in Edinburg. "*Men and Manners in America*," *2 vols., by the author of Cyril Thornton.* Many of our readers may remember a *jeu d'esprit*, published in this paper shortly after Mr. Hamilton, the author above referred to, left this country—purporting to be a poetical epistle from him to Lockhart. We shall be agreeably disappointed if the sentiments and opinions ascribed in that piece to Mr. H., be not realized in his forthcoming book.

We are indebted to a young medical friend for the annexed notice of a valuable work, of which the merits and usefulness are well explained by him.

The Dispensatory of the United States, by George B. Wood, M. D. and Franklin Bache, M. D. Philadelphia: *Grigg & Elliott.* 1833.—The eyes of the public at large, as well as of the medical profession in this country, seem hitherto to have been closed against the importance of a knowledge of Pharmacy in the education of the Apothecary. Where such immense interests are at stake, it is only strange that attention has not been more strongly excited to the subject, and that we have been so slow in discovering the means for the better education of that responsible class of the community. A work, then, having for its object the elucidation of the principles of Pharmacy, extending also to the medical history and properties of the articles enumerated in it, cannot fail to be received with thanks by all interested (and which of us is not?) in the progress of this branch of knowledge. Such is the work with whose name we have prefaced these remarks. Not that it stands alone upon the subjects of which it treats, for many and valuable productions on Materia Medica and Pharmacy have been issued from time to time from the press, and have received their due share of praise and attention; but a true and complete history of the Science of Pharmacy, as it now exists in this country, and of the various drugs and medicines which are now acknowledged by the medical practitioner, as well as of those whose reputation entitles them to mention although their use is now laid aside, has long been wanted. The subject has not been exhausted in Europe, and still opens a wide field for investigation. Our own fertile country, with every variety of soil and climate, is rich in plants whose properties and importance in a medical point of view present them to us as objects of laudable research. The authors of the Dispensatory have availed themselves of every information which the many valuable treatises on these subjects, as well as long experience through their own practice, have afforded. How far they eave succeeded in their endeavors to give a complete history of the various articles, it needs only a reference to the work itself, and the long established reputation of the gentlemen, as men of liberal and sound judgment, of deep research and caution; adopting the opinion of others, not without the most careful examination, but, when convinced, aaserting them with vigorous determination. As Professors of the Philadelphia College of Pharmacy, their names rank high in their respective branches of Materia Medica and Chemistry; and their fame is destined to added lustre from the present work. There is another point of view in which the Dispensatory is to be considered: within the last few years, the medical world has been enriched by a national Pharmacopœia, which has already won its way to public favor by the decided merit of its contents. Of this, no explanation has hitherto appeared; and entering as it does into details which may seem new and unnecessary, it is due to the work that something of the kind should be offered. This has been most successfully attempted in this work. To use the words of the preface—"the Pharmacopœia of the United States has been adopted as the basis of this Dispensatory. It is followed both in its general division of medicines and in its alphabetical arrangement of them under each division. Every article which it designates is more or less fully described; and all its processes, after being literally copied, are commented on and explained, whenever comment or explanation appeared necessary. This appeared due to the national character of the Pharmacopœia, and to the important object of establishing, as far as possible, throughout the United States, uniformity both in the nomenclature and preparation of medicines." At the same time, the Pharmacopœiæ of Europe have been consulted, wherever they seem to differ with our own; the discrepancy attended to and explained; and whatever preparations of importance they may contain, are adopted and transferred to the pages of the dispensatory, with a laudable liberality. As a commentary upon the United States Pharmacopœia, it is a most comprehensive and valuable work: valuable, not only to the apothecary, but to the physician, giving as it does a correct history of the medical, as well as the commercial and pharmaceutic properties of the various articles.

Cæsar, translated by Wm. Duncan: 2 vols. New York, *J. & J. Harper.*—These two volumes, which constitute Nos. VI and VII of the Family Classical Library, rejoice us; for we feared from the long interval that has elapsed since Rose's Sallust appeared, that the publishers were disconraged from pursuing the series. We have an earnest in the volumes before us, that our fears were unfounded; and Cæsar, the first and ablest writer of Commentaries on his own wars, the admirable orator, statesman, author, and soldier, is here presented in an English dress, which aims to preserve, as much as possible, the style and manner of the original.

Cottage Economy, by Wm. Cobbett. New York, *John Doyle.*—It is now some twelve or fifteen years since Cobbett, (now an Honorable by the courtesy, and an M. P. by the votes of his fellow-countrymen,) first published this work, which combines all necessary directions for feeding pigs and poultry, brewing, baking, &c. &c. interspersed throughout with vigorous sallies of his original, powerful, but too often perverted mind. We dare say, the recent honors conferred on the author, will add to the demand for his book.

The New York Sporting Magazine, and Annals of the American and English Turf, No. 1; printed for the Editor and Proprietor, C. R. Colden, by J. W. Bell, 17 Ann street.—We do not hesitate to say that this is one of the handsomest and most complete sporting periodicals that has yet appeared any where. It is a large well printed quarto of 42 pages, admirably arranged inside, and the number before us is embellished with three fine portraits of celebrated horses. The editor, whom, under his signature of "An Old Turfman," we recognize as one of the best contributors to Mr. Skinner's excellent work of a similar character published in Baltimore, and whose thorough qualifications for the task he has undertaken are, we believe, generally admitted, proves that he holds the pen of a ready writer, in a number of well-prepared articles, besides his very clever introductory. In short, with a single exception, this work holds out the richest promise of entertainment, instruction and satisfaction to all true lovers of field sports. The exception, however, should, in our opinion, be fatal to the work, unless it be at once removed. It is including what are called "the sports of the ring and the pit"—in other words the brutalizing diversion of boxing, and the low and savage one of cock-fighting, with the high-spirited pleasures of the race-course, the beautiful amusement of angling, the invigorating one of fowling, and the soul-stirring excitement of the chase. It is mingling up and confounding two of the vilest amusements that have in any country survived the progress of civilization, with those manly pursuits and invigorating pleasures in which "brown Exercise" leads us through flood and forest, by the still covert's side, and over the breezy moor. It is identifying with the practice of those sports which every man who wishes to see a hardy, high spirited population continued in the country, must be anxious to promote among our youth, in every proper way, the indulgence in diversions to which the sense of our community is so abhorrent—however they may be tolerated in other countries—that they are practised only in holes and corners in ours.

The Editor is mistaken if he thinks, because the fine exercise of sparring is becoming a favorite one among our young men, while they have such a capital teacher of the science as Fuller, that what is called a regular "set-to" will ever be countenanced here. And as for cock-fighting, the proverbial amusement of stable-boys, what have their masters, his subscribers, to do with it? These low and savage tastes are not the tastes of the country, however acceptable they may be to individuals, and any publication which attempts to engraft them upon us, *must fail.* Let the exceedingly capable, the enterprizing, and veteran Editor of the New-York Sporting Magazine lay this to heart, and we are convinced he will at once discover the unnatural union which he is about to make in his work, of pursuits the most interesting and attractive, with those especially enti.

tled to contempt and abhorrence. When this is done, he may be morally certain that a work continued with the ability and elegance with which this is begun, will meet with the warmest countenance, and the most liberal support.

Tales of Military Life, Second Series. By the author of the Subaltern. Philadelphia: Key & Biddle.—With the exception perhaps of Capt. Hamilton, and the very clever author of "Recollections of the Peninsula," Mr. Gleig, the author of this book, is the most agreeable of the whole corps of military writers, which of late years has sprung up in such force in England. He, if we recollect aright, was one of the very first to take the field in this new capacity, after the return of general peace in Europe, made the soldier's a trade less winning than the scribe's; and he continues with his light troops—his duodecimo tales and sketches—to maintain his ground, in spite of the heavy artillery, the quartos and folios, with which the Napiers and the Londonderrys have come upon his position. "The Gentle Recruit," and "Saratoga," are the stories which compose this volume; and though written in a more ambitious style than "The Subaltern," there is still all the graphic power and much of the engaging truth and simplicity of narrative which made that little work so popular. The volume, we ought to add, is printed with a degree of elegance rarely found in American republications of this kind.

New Music.—*Hewitt* has issued this week the following new pieces:—*The Hunter Boy*, a ballad, music and poetry by William Ball; *Louisville March; The Minstrel to his Harp*, music by Kiely; *Musical Recreations*, from the *Gazza Ladra; Oh doubt not*, a song by Peters; *Deh! non valor contringere*, from the opera of Anna Bolena by Donizetti; the *Amelia Waltz; Grand Polonaise*, composed by Marsh; the *Banks of Allen Water*, arranged for the Guitar, by Otto Torp: *'Twere vain to tell thee all I feel*, also for the Guitar, by Torp, and *The Missletoe Bough*, as sung by Sinclair.

The following announcement of the biography of one of the illustrious patriots of our Revolution, appears in the Boston Patriot, and is said to be from the pen of an eminent scholar of New England, whose profound researches into our national history give a value to every thing he writes on the subject.

Memoir of Governor Livingston.—We understand that a work is now in press in New York, entitled "*Memoir of William Livingston, former Governor of New Jersey.*" Whoever is conversant with the history of the Revolution will anticipate with no small degree of pleasure the appearance of this work. Few names in that drama of events are more worthy to be perpetuated with honor, or have higher claims to the praise and gratitude of posterity, than that of Governor Livingston. In times of peril and despondency, when hostile armies overran and ravaged the middle states, when the hearts of the people began to sink within them, and the hopes of the nation were verging to despair—in those times that tried the patriot's constancy and character, the Governor of New Jersey fulfilled the duties of his station with a promptness, an energy, a perseverance and ardour, that roused the drooping spirits of his countrymen, and contributed on many occasions most essential services to the public cause. No man possessed in a higher degree the esteem and confidence of Washington, and on none did he rely more entirely for aid and support when dangers threatened, or exigencies demanded.

Governor Livingston was born in Albany, 1723, an early descendant of the family of that name which has become conspicuous for its numbers, its wealth, and its talents in the State of New York. He was the brother of Philip Livingston, one of the signers of the Declaration of Independence; and also the brother-in-law of Lord Sterling, and the father of Brockholst Livingston, for many years an able associate Justice of the Supreme Court of the United States.—John Jay married one of his daughters. These and other family connections combined with his personal merits to diffuse a knowledge of his character, and increase the weight of his influence.

After graduation at Yale College, in 1741, he applied himself to the study of the law, and entered with more than usual promise into the practice of that profession in New York. His opinions at that early period took a strong tendency to Whigism, and he edited the *Independent Reflector*, a paper of that complexion. He was actively concerned, also, in the dissensions about King's College, which, by mingling together religion, literature and politics, raised up parties, and produced a good deal of excitement at the time. We next find him in the Assembly of New York, and soon afterwards editing the *American Whig*, another newspaper of a liberal cast, as its title implies.

Considerations relative chiefly to his private affairs induced him, in the year 1772, to remove to New Jersey. His residence was near Elizabethtown. The growing difficulties between England and her colonies could not but awaken his attention, and kindle his feelings, ever active to the cause of his country and the high claims of liberty and justice. Although a recent inhabitant of the colony, his reputation was at once a proof and a pledge of his ability to serve his fellow citizens in a respectable station, and his fidelity to their interest. He was chosen a delegate to the first Continental Congress. The election was repeated, and he remained in the highly honorable post, till June 1776, when he was called from Philadelphia by the Convention of the State to take command of the New Jersey troops, then assembling at Elizabethtown for the purpose of guarding the State against the invasion of the British, who were at that time menacing New-York. Clothed with the rank of Brigadier General, he entered upon the duties of the field, acquitted himself to the full approbation of his constituents and obtained the special applause of the Commander-in-Chief for the talents, activity, and address, which had marked his brief military career.

But higher destinies awaited him, and those better suited to his former habits end attainments. The State of New Jersey assumed an independent form of government, and in September, Gen. Livingston was transferred from the ranks of the army to take the helm of State as its first civil Chief Magistrate. No higher eulogy need be uttered on the manner in which he executed this trust, than the fact that he was annually re-elected fourteen successive times, till his death, in 1790. During that period he was appointed by Congress to be Minister Resident in Holland, which he declined. He was also a delegate from New Jersey in the Federal Convention for forming the Constitution of the United States, although at the same time Governor of the State.

It is on his character and acts, as Chief Magistrate of New Jersey for so long and so interesting a period that Governor Livingston's fame is mainly founded, and in this relation it adds lustre to the page of American history. If the civil station has less glare to attract the gaze, and less power to call out the sounding breath of the multitude, than the military, it is nevertheless, to say the least, when filled with ability and self-sacrifice, equally deserving the just awards of history, and the judicious admiration of the wise and discriminating. In this view, justice is still to be rendered to many worthies of the Revolution, and particularly to the Governors Livingston, George Clinton, and Trumbull. To the first, this debt of gratitude is speedily to be paid. From the two last we hope it will not long be withheld.

The biographer of Governor Livingston, we understand, has been favored with peculiar advantages for performing his task with accuracy and faithfulness. He has had access not only to all the original papers of the subject of his memoir, which now remain, but to many others illustrative of his deeds and times. Governor Livingston was a man of genius, a scholar, and a wit. He wrote some anonymous pieces, which must be curious even at the present day. His humorous reply to Burgoyne's pompous proclamation was one of the most happy and mirth-stirring productions that has come from the American press. The humor and satire of Hopkinson and Livingston did more to keep alive the spirit of the Revolution than many a grave discussion about the rights of the British Parliament, or formal address of a public body.

The Knickerbacker.—The next number of this periodical, to be issued on the 1st of April, will be under different auspices from the preceding numbers—the gentleman who edited the first three having withdrawn himself for reasons in our judgment abundantly sufficient, from any further connection with the Magazine.

It is of course the intention of the proprietors and publishers to continue the work.

SUMMARY.

Navigation Open.—The Constitution and James Fairlee arrived last Sunday—the former from Poughkeepsie, the latter from Albany, which city she left on Saturday evening.

The river continues high, although it had fallen a few inches yesterday afternoon. The ice is continually passing down in large masses. The water was yesterday seven or eight feet deep on the pier, Quay street, and in the lower stories of the warehouses. It overflowed the lower part of Market street, obstructing the ordinary passage of the street in the vicinity of the Eagle Tavern, and filling the cellars the entire length of S. Market street.—[Albany Argus of Saturday.]

The Postmaster at Northampton has given information that the mail which left New York on the 21st instant was lost in the Connecticut river, three miles below that place, by the coach tumbling over the bank at the Bend. All safe but the mail, and search was making for it, which contained of course nothing from south of Northampton.

Nullification at an End.—The Washington Globe of yesterday, (received this moment, one o'clock,) contains a letter of 16th inst. from Columbia, S. C., stating that the new ordinance, repealing the nullifying ordinance, and all the laws passed in pursuance thereof, passed on the 15th—only four dissenting votes.

Indian Treaties.—In the Globe of Tuesday the 19th inst, the treaty with the *Menominees* as finally negotiated by Gov. Porter of Michigan and ratified by the Senate, is published. Its chief object is to stipulate a reservation for the New York Indians on the east side of the Winnebago lake—the New York Indians, including the remnants of the Stockbridge, Munsees, Brothertown, St. Regis and Six Nation tribes, assent to the treaty.

The same paper of Saturday the 23d, contains the Chickasaw treaty, duly ratified by the Senate, stipulating for the removal of the whole "Chickasaw nation" west of the Mississippi.

The Cherokees are now the only Indians remaining within any of the States.

Munificence.—We understand that the late Hon. Joshua Fisher, who died at Beverly last week, has bequeathed $20,000 to Harvard University, as a foundation of a Professorship of Natural History—also about $7000 to Rev. Mr. Thayer's Congregational Society, and has made other liberal donations.

The above is from the Salem Gazette of 22d inst. Rich men do die hereabouts too, sometimes, but we have no recollection of any scholarships or professorships founded by any such. We wish this "Yankee notion" could find some imitators this side of Byram river.

A New Drink.—A correspondent sends us the following extract of a letter:

"By the way, do the people "down East" know that an excellent drink can be made of the sap of *Birch trees?*. You may if you please, communicate it to some newspaper. It is made like wine."

The next best thing to telling that sap of Birch trees makes an excellent drink, is to let us know the process of making it—though, to be sure, they are 'cute enough "down East" to find any thing out.

Sewing on Glazed Calico.—By passing a cake of white soap a few times over a piece of glazed calico, or any other stiffened material the needle will penetrate with equal facility as it will through any other kind of work. The patronesses of the School of Industry pronounce this to be a fact worth knowing, the destruction of needles in the ordinary way occasioning both loss of time and expense.—[Taunton (Eng.) Courier.]

Philology.—Elliott, the Apostle to the Indians, was a man of the most exemplary patience and remarkable perseverance. In his translation of the New Testament into some Indian dialect, he never suffered himself to be daunted by such words as follows. It occurs in St. Mark's Gospel:—

"Wuttappesittukgussunnookwehlunkquok,"

SHAD!—A Shad was taken on Saturday the 23d inst. in the North River, (being the first,) by *Captain A. Willis*, and sold in the Washton Market at One Dollar and Fifty Cents.

[*From the Journal of Commerce.*]

GOVERNMENT DEPOSITS.—We understand the U. S. Bank is still the place of government deposits, and what is still more important, that there are actually considerable sums deposited. The cash account of our Custom House the last week stood thus.

Bonds paid	$348,156 45	Debentures paid	$80,158 19
Cash duties	66,405 44	Return duties	74,933 81
Tonnage	370 13	Balance	260,841 52
	$414,933,52		414,933,52

At no other port has there been as yet any payment of the return duties. The suspension in paying them here, took place on the ground of the general instructions of the Secretary published some days ago, which contains the following clause:

"The applications for a return of such excess of duties, as well as for other duties to be refunded, are, of course, to be made to the Treasury, and to substantiate the claims, a certificate of the custom house officers is to be produced, agreeably to the enclosed form, marked B."

[*From the Albany Argus of Saturday.*]

Appointments made by the Governor and Senate, Tuesday, March 19:—

New York—John White, James Kelso, Owen Calhman, David Kelso, George Kelso, Christopher Seaward, Edward Smith, Richard Thompson, James Malcom, William H. Rolston, Thomas Hope, Josiah Johnston, Samuel C. Hicks, Robert Thompson, Geo. Arnold, Robert T. Norris, John Henderson, Wm. P. Teneure, David Sherry, John Dean, Nicholas H Stevens, Joseph Brotherton, Hugh A. Johnson, John Terneure, Abraham Terneure, John Ming and John Hyer, branch pilots by way of Sandy Hook.

Jefferson—Jason Phelps, auctioneer; Wm. Wood, notary public.

Madison—Orren Hall, auctioneer.

FRIDAY, MARCH 22.—*New York*—Samuel Wiswall, John Webb and David Mitchell, harbor masters; Josiah Ingersoll, master warden; and Charles H. Barnard, Reuben Hope, and John Minugh, wardens of the port of New York.

FOREIGN INTELLIGENCE.

CHOLERA AT HAVANA.—A letter of the 9th from an American gentleman at Havana, says the excitement there on account of the Cholera, was very great. The number of cases on beard the vessels had been small; but on shore the number of deaths was variously estimated at from 100 to 150 per day; principally among the blacks.—[Journal of Commerce.]

Awful Catastrophe.—The Redactor of Saturday contains an article from the Constitutional del Cauca, stating that in the month of July last while Mass was being celebrated in the church of Sigchos, near Tacunga, in the republic of Equador, South America, on the day of the solemn festival *del Corpus*, fire was communicated to the builging by means of a rocket, and that in the rush of the audience to the door, it became shut, and THE WHOLE CONGREGATION PERISHED IN THE FLAMES, *except the Curate, who escaped through a window!* The number of lives lost was estimated at more than FIVE HUNDRED, besides children.—[Jour. of Com.]

FROM THE SANDWICH ISLANDS.—We have been furnished with the following extracts from letters recently received from these islands via Manilla:—[Boston Centinel.]

George Marini and fifteen Sandwich Islanders, were massacred at Wallis's island last year—they had gained a little brief authority there, and began to oppress the natives, who rose upon them and put them all to death.

Kaahumanu, the Queen Regent of the Sandwich Islands, died at Mano (Island of Oahu) on the 5th of June last, of a bowel complaint. She died as she had lived, (of late years) a christian. Kinan succeeds Kaahumanu as regent, and all things went on quietly and well down to October last.

The English Cutter William Little, of Liverpool, which was cruising on the coast of California, with a crew consisting of Captain Carter, and six Sandwich Islanders, who rose upon the Captain and threw him overboard. They then steered away before the wind, not knowing where they were going, when they fell in with Fanning's Island—one of them knew the island, and they concluded to land—took all the money on board and a few articles of moveables, into the small boat, drove a hole through the cutter's bottom with a crow bar, and then landed. From Fanning's Island they got to Oahu, where one of the number turned King's evidence. The two principals, Bowling and Kahiniau, were taken up by the island authorities, and on examination they confessed the fact and particulars. They were tried before Kuakini, (John Adams,) Governor of Oahu, and Bowling and Kahiniau were condemned, and were to be hung on the 12th of June. This is the first case of piracy and murder ever known to have been committed by Sandwich Islanders.

FROM PARA AND MARANHAM.—Capt. Green, of the brig Rebecca, from Maranham via Para, informs that the state of things at the latter place was very unsettled. The people are divided into three factions—one in favor of Don Pedro, another for Don Miguel, and a third, consisting principally of the lower classes, desiring a republican form of government. Murders and assassinations were very frequent. "On the day of my arrival," says Capt. G., "I had business on shore early in the morning. The first thing that met my view was a young woman eighteen or nineteen years of age, with her throat cut from ear to ear! She lay in the public market place, and little notice was taken of her. Going further along through Palace Square, I saw a European Portuguese butchered in the most horrible manner." Capt. Green represents the old Portuguese as very desirous to leave the country, but unable to dispose of their property for any thing like its value.

A conspiracy on board the Brazilian corvette Defensora (guard ship) against Capt. Ingliss, had been detected in time to prevent its being carried into execution. The ringleaders were two lieutenants, who were put in irons and sent to Rio Janeiro for trial.

Markets at Para dull and overstocked. Flour was quoted at $7. At Maranham, 6 to 7 mil reis.—Hides, 110*a*115 reis. A brig arrived at Maranham from Oporto, under the flag of Donna Maria. The political state of that town and province was vastly better than at Para. Trade and commerce going on prosperously.

[*From the N. Y. American of Tuesday.*]

LATER STILL.—The Ajax, from Liverpool, brings dates from London to the 19th, and from Liverpool to 21st ult.

The Parliamentary debates are the chief affairs of interest, and especially those relating to Ireland.—The insurrection bill, which invests the military authorities with the whole control of Ireland, would undoubtedly pass. It was justified on the sole plea of necessity, and all but Mr. O'Connell, and a few of his friends seemed to admit that the plea was good.

The affairs of Portugal seem to be little altered. An extract from a Bordeaux paper declares that Sir Stratford Canning has effected an arrangement with the Court of Madrid for the recognition of *Donna Maria*, and also for the calling of the Spanish Cortes in order to secure the succession to the Spanish crown of the young Princess, to the prejudice of Don Carlos.

STILL LATER.—The Roscoe, from Liverpool, whence she sailed on the 24th! ult. is coming up. As yet, we have only an account of Markets. Of cotton, for the week ending 23d, 14420 bales had been sold at a decline of 1-8d. The imports for the same period were 11332 bales. United States Bank Stock quoted in London at £22.10 to 22.15.

A postscript of Saturday evening 23d, from Liverpool, says—"Our Cotton Market has to-day been steady, and the sales amount to 2000 bags, which are chiefly American."

The Irish insurrection bill passed the House of Lords, on the 22d.

Among the passengers in the Roscoe is the *Hon. C. R. Vaughan*, who returns to his post at Washington, as Minister from Great Britain to the U. States.

Mr. Speaker *Stevenson* will now, we suppose, obtain his long coveted appointment of Minister to Great Britain.

We have (at 1 o'clock) our papers to 22d ult., inclusive, from London. They furnish Paris dates of the 20th, three days later than those before received. We give some extracts under the Paris head, which are all we find of interest.

The Geo. Clinton, which sailed from Liverpool as the packet of the 8th February, returned leaky. Her cargo was reshipped to the Birmingham for the 1st of March.

The Sully, Capt. Forbes, sailed from Portsmouth, on the 16th February, for New York.

[*From the Messager des Chambres.*]

PARIS, Feb. 19.—It is confirmed that a project of law will be very shortly presented to the Chambers, to obtain a dowry of a million for the Queen of the Belgians.

It is affirmed, however, that a very influential Deputy, and who has often been proposed for an eminent place in the Council, has energetically declared against such a project, which, however, has not been abandoned.

The *Courrier Francais* makes us acquainted with some clauses of the marriage contract of the Queen of the Belgians:—

"The following are the reports in circulation relative to the portion of a million which has been promised to the Queen of the Belgians. The clauses of the contract have been kept secret even from those who are intimates of the Palace; no body has been consulted. Now, by the cession made by the King to his children of his private fortune, the Princess brings as a marriage portion to the King of the Belgians, her share in the patrimony of the Orleans family, which is estimated in landed property at six millions; the million in money will be asked of the Chambers; and a curious circumstance is that Belgium, owing us sixty-five millions, including the expenses of the expedition, which it has cost us, the million for the Queen's dowry will not be deducted, but that it will be given over and above. This is carrying generosity very far."

[*From the N. Y. American of Monday.*]

LATER FROM EUROPE.—By the Rhone packet ship, from Havre, we have Paris papers to the 18th ult, furnishing London dates of the 15th.

Of continental news there is not much. The Belgian question is where it was. In Portugal a sortie made by Gen. Solignac against the Miguelites, on the 24th January, seems to have been without result. The failure is ascribed to the want of co-operation on the part of Sartorius, and the naval forces; there were, in consequence, rumors that he would be dismissed.

The victory of Koniah, by the Egyptians, is confirmed. The result, according to the latest Paris dates, was an armistice between the Porte and Ibrahim, without any intervention by foreign powers.

In England, important discussions, in both Houses of Parliament, had occurred on the occasion of the King's speech. In the House of Commons, they turned mainly on the troubles of Ireland, which the Ministry announced their determination to terminate by force, while at the same time all reasonable attention should be paid to real grievances. Mr. O'Connell spoke of the King's Speech as a "brutal and bloody speech," whereupon he was called to order by Lord John Russell, who desired the words might be taken down, as disrespectful to the sovereign.—Mr. O'Connell said, that according to the theory of the Constitution, the Ministers and not the King were responsible. The Speaker decided that such was the proper view of the subject, but submitted whether the terms employed by Mr. O'Connell were such as decorum and propriety would warrant. Mr. O'Connel then continued his speech, but less violently. Cobbett proposed a substitute to the ministerial answer—which, however, was carried by a vote of 390 to 23. On the next day, the 12th, the Chancellor of the Exchequer introduced his plan for regulating the affairs of the established Church, in Ireland.

This important measure being expected, the galleries and body of the House were excessively crowded. The proceedings are reported so much at large, that we can give only a brief sketch of it. Before the subject was introduced, the Speaker ac-

quainted the House that the House had that morning presented the Address which had been voted to his Majesty, who had been pleased to return the following gracious answer:—

"I thank you for your loyal and dutiful Address. You may rely upon my support in any steps you may take for maintaining the legislative Union between Great Britain and Ireland; and you may be assured that in repressing all acts of insubordination I will assist you to the utmost of my power, by the removal of all just grounds of complaint in every part of my dominions."

The reading of the answer elicited loud cheers.

The Chancellor of the Exchequer then rose, and stated that he wished to discuss particularly the grievance of the Church Establishment in Ireland. Mr. Stanley was to introduce a measure on the grievances arising from grand jury presentments. The internal taxes in Ireland were not many nor great. He intended to procure a change in regard to soap. The want of capital may be remedied by the restoration of peace and order, and this may be secured by legal enactments.

The church establishment in Ireland was far greater in proportion to the population than in England; but the revenues were very much overrated. He had been greatly deceived on this subject.

The nett amount of all revenues of the Bishops of Ireland was not £130,000; the gross amount of all the revenues was £150,000, but owing to the expenses of collection, etc. the nett amount was not more than £100,000. It was true that a large tract of country belonged to the Irish bishops; but the Irish bishops had not any beneficial interest in it; but their tenants and lessees had full five-sixths of the value of that land. The estimated amount of the value of these lands was £600,000. Of this sum the bishops did not themselves receive more than £100,000.—That accounted for the exaggerated ideas of the amount of the episcopal revenues that prevailed in Ireland, and which had been stated with so much confidence by several gentlemen on the other side of the House. With regard to the deans and chapters of Ireland, it was not as in England. There was not a great number of prebends, whose income was derived from their chapter alone. In Ireland livings were attached to the deanery and to the chapter, and the mode of payment to the prebends was by the revenue derived from their livings. The whole amount of revenue belonging to the deans and chapters was £23,600; but the necessary expenditure to which this sum was applied was £21,400,—so that the surplus of £2,200 was all that was left for the deans and chapters. As to the amount of value of the other benefices in Ireland, returns had not been received from all benefices in Ireland, but only from the greater portion of them. The number of benefices in Ireland was 1,401; of this number 1,149 had sent in returns; the amount taken at their value was £478,000. The other 252, at the same average value, would make £580,000, the whole revenue derived from the benefices of Ireland. Taking it at 600,000*l.*, he thought that it would not be placed below its fair value. His statement was briefly this:—

Amount of the revenue of bishop's fees,	£130,000
Revenue of deans and chapters, exclusive of the livings held by them as prebends,	2,2000
Revenue of the other benefices in Ireland	600,000
Total revenues of the Irish church	*L*732,000

He thought that all the revenues of the church of Ireland applicable to the support of the Ministers of that church did not exceed 800,000*l.* He thought the first claim on the property was that of the established church. He thought there were in Ireland, 200 livings of less than £100. The first fruits, have therefore been applied, first to the repair of churches: these it is proposed to abolish; and to impose a tax on livings above £200, and a rate increasing with their income, which will go into a general fund. On the bishoprics the scale for the tax would be lower.

This might be said to attack vested interests, but he had reason to believe that the clergy would not be much opposed to it, and the church was required to make some sacrifice.

A board of Commissioners would be proposed, to carry into execution the arrangements in temporalities. This board, though consisting partly of clergymen, would be independent of them.

Church *cess* was to be immediately abolished.—[Great cheering for several minutes!] This amounted by estimate to £70,000 annually; while the new arrangements would yield £60,000. The fund would be applied to various purposes, but under such restriction, that Protestant churches would not be unnecessarily built.

Other measures were to be authorized, which would not go into effect until the death of present incumbents. The revenues of the Primate of Ireland amount to £14,500. This is to be reduced hereafter to 10,000. Deans and Chapters to be abolished, when not connected with duties, or else to be connected with duties.

There are 22 diocesses, which are too many, and might be reduced by ten; it was proposed to unite Dromore to Down and Connor; Clogher to Armagh; Raphoe to Derry, Elphin to Ardagh and Kilmore; Clonfert to Killaloe; Killala to Tuam; Kildare to Dublin; Cork to Cloyne; Waterford to Cashel; and Ossory to Ferns.

The incomes would be reduced from £130,000 to 90,000.

To remedy an evil arising out of bishops leases, it was proposed that every tenant should be enabled to demand from the Bishop a lease of his land in perpetuity at a fixed corn rent. [Hear, hear.] Now the value of such a lease, at a fixed corn rent, would be twenty years purchase instead of twelve and a half. But it was proposed that the bishop should grant leases in perpetuity at a corn rent on a tender of six years purchase being made to him. That would give the full advantage of any improvement which they might effect in the value of the land, and also provide against any hazard from the bishop running his life against the tenant.

For enabling the government to subdue the disturbances in Ireland, the following is said to be the course that will be pursued:

"A law is to be introduced providing,—1. That in all capital cases connected with the existing disturbances, upon a suggestion specially to be defined, the venue may be laid in England.—2. That the Lord Lieutenant may, in certain described cases, subject by proclamation any part of Ireland to martial law.—3. That in the disturbed districts of Ireland, certain military tribunals shall be created for the trial of offences less than capital; these tribunals to be composed of a captain and four subaltern officers, to have power to pronounce sentence of transportation for life, to be carried into execution *instanter* upon conviction, and without appeal. The Catholic priests to be taken into the pay of the Government."

The excitement which prevailed in Paris in the first week in February, respecting political duels, had passed off—the wounded men all recovering. *M. Carel*, Editor of the National, had been able to go out, and his first visit was to his antagonist, *M. Roux Laborie*, Editor of the Revenant, whom he had wounded. *M. Nettement*, Editor of the Qnotidienne, had been wounded in a second duel—the original cause of offence, as before stated, was the scandal circulated respecting the alleged illness of the Duchess of Berri. The Editor of the Corsair, *M. Brisault*, who first put it in form, was called out and severely wounded by a partisan of the Duchess: before his recovery he was called on to fight a second time. M. Carel and his friends considering this as persecution, gave notice that any number of the partisans of legitimacy who were anxious for fight, might be accommodated at his office. A list of twenty-four was immediately carried to him, out of which he was asked to select an antagonist, and did so. Others followed; when the government interposed, and declared its purpose of punishing all parties engaged in such duels; and happily they had ceased.

[*From Foreign Journals.*]

THE AIGULETS OF ANNE OF AUSTRIA.

A SECRET ANECDOTE.

The annals of gallantry and even romantic fiction, have opened few scenes more strangely magnificent than some of the incidents which mark the rapid but splendid career of that famous Villiers, Duke of Buckingham, who was the idle minister of two monarchs, and the victim of favoritism.

Certain it is, when Villiers was on his short embassy in France, he dared to become an impassioned lover of Anne of Austria, the consort of Louis the Thirteenth. The mysterious interview in the garden at Amiens, is mystically revealed in the verses of Voiture, for poets are great tattlers in the history of love affairs. The Queen, ever a refined coquette, was herself seduced by Buckingham's personal fascination. Deeply enamored of the peerless Englishman, she ventured to give an evidence of her devotion of a very extraordinary nature. The rival of Buckingham, both in love and politics, the subdolous Richelieu, flattered his vengeance that, by a bold stroke, he would have been enabled to have exposed this testimony of the Qneen's frailty to the eyes of the luckless monarch, who was already kindled by inextinguishable jealousies. Richelieu's extraordinary attempt seems to have led to circumstances on the part of Buckingham which may almost render the tale incredible; but when a minister of state degenerates into a romantic lover, and the honor of the *dame de ses pensées* is in jeopardy, we must recollect that it requires little exertion to set in motion all the sources of power, and the whole machinery of the state. The particulars which we are about to relate are strange, but appear authentic; for they are confirmed by a positive assertion in the Memoirs of the Duke of Rochefoucauld. The romantic incident which has been preserved by a French manuscript, is not indeed to be found among the writers of secret memoirs in our own country, where indeed the secret must have been confined to the two personages, neither of whom would willingly have revealed it to the other; but this did not happen at the Court of the Louvre, where it not only excited a deeper interest than at the Court of St. James, but involved the fate, and baffled the designs, of the highest personages who were the actors in this little drama.

The French monarch had presented his Queen with an uncommon present, whose fashion and novelty at the time were considered as the most beautiful ornament worn. It was what the French term *des ferrets d'aiguillettes de diamans*,—aiguilets or points tagged with diamonds.

On the arrival of Buckingham, every day was a festival. Richelieu gave a magnificent entertainment at the gardens of Ruel, the most beautiful in France; the nobility prided themselves on their suppers, their balls, their concerts and their masquerades. Buckingham danced with all his peculiar graces; the Queen honored him as her partner in what is called a "counter dance," (or as we commonly call it, a country dance.) "And in this English dance, opportunities are continually occurring to approach one another, to give and to cross their hands, the eyes, the gestures, timidity or boldness, and a thousand indescribable things are too intelligible, though they pass amidst the silence in which such spectacles are performed, out of respect to the public." This Frenchman describes our obsolete country dances to have been as dangerous as were *waltzes* on their first introduction.

Richelieu was jealously watchful of what was passing; the Countess of Lanoy gave him an account of everything her prying eyes could discover. Under the specious title of *Dame d'Honneur* our Kings have found means to place near their Queens a perpetual *surveillance*. But as the Superintendent of the Royal House has private *entrées de cabinet* at all times, which are not the privilege of the *Dames d'Honneur*, Madame de Chevreuse passed whole hours alone with the Queen, and the Cardinal, however well informed of the exterior, was very little of what passed between the Queen and her friend. The French Minister pressed Buckingham to close the negotiation of the marriage of Henrietta, but Villiers had no desire to quit the French Court, always finding some occasion for delay. At length the ceremony was performed, with great splendor. In all that had hitherto passed, the Queen had received from Buckingham many proofs of his lively but respectful passion. She certainly was not insensible to love, and if she really caught the flame which she had herself lighted up, and that Buckingham departed with all the honorable treatment which a stranger can receive from a great Court, he was allowed to recross the seas without any other fruits of his love than that of having been listened to with favor.

There was one indiscretion which escaped from the Queen. On the evening of Buckingham's departure, she sent the Duke secretly by Madame de Chevreuse, the gift she had received from her royal consort, the aiguiets tagged with diamonds; and this present, which might have been considered a mark of the magnificence of the Queen, became, by the circumstance of the gift, and the pleasure of the mystery, an act of delicate gallantry which charmed the English Duke, and sent him home a happy man.

During the journey of Buckingham, the Countess of *Clarik*, (probably the Countess of Carlisle, for Frenchmen generally spell our names by their ear, which is very bad,) somewhat in pique at what she had heard of the infidelity of her straying admirer, had found out a secret way to correspond with Richelieu, who on his part, had not omitted anything which

tended to inflame the English Countess. This great Minister was well known for multiplying all sorts of means to gain intelligence from all the Courts in Europe; his industry never slumbered, and his treasure was never spared. The present which the Queen had made of her aiguilets tagged with diamonds had not escaped the vigilant eyes of the *Dame d' Honneur* and the secret had reached Richelieu. This Minister had long watched his opportunity to ruin the Queen in the mind of the King, over whom, indeed, he himself exercised the greatest authority, but which sometimes was balanced by the Queen. Richelieu wrote to the Countess of *Clarik*, desiring her to renew her intimacy with Buckingham, and if, in any of the approaching entertainments which would take place on his return, she should observe in his dress aiguilets tagged with diamonds, that she would contrive to cut off two or three, and despatch these to him. Buckingham was too feeble to resist the studied seductions of his old friend; and the Countess found no difficulty in accomplishing her task. At a ball at Windsor Castle, Buckingham appeared in a black velvet suit, with a gold embroidery; a scarf was flung over his shoulder, and from a knot of blue ribbons hung twelve aiguilets tagged with diamonds, flaming their hues on the surface on which they played. When Buckingham had reitred from the ball, his valets de chambre perceived that two of the 12 aiguilets were missing; and they convinced him that these had not been dropped by any accident, but had positively been cut off. There was something in his recollection of that evening, which bred a suspicion. He felt conscious that whoever had done this had some latent motive. The secret history of these diamoud aiguilets could only be known to their wearer, yet, notwithstanding, and as it were by intuition, he thought that the honor of the royal giver might, in some mode or other, be concerned in possessing these twelve aiguilets entire. He decided that, notwithstanding the artifice of the cunning purloiner, he would prevent any design, if there were any, of the enemies of the Queen that the number should not be diminished. With his extraordinary rapidity of conception, Buckingham struck out a gigantic scheme, which no one less than a Minister of State and the most romantice lover could have executed. Early in the morning, couriers were despatched to close the ports, and neither the packet boat with the mail, nor any vessel sailing for France suffered to depart. At that moment, when the Rochellers were waiting for the promised reinforcements from England, an universal panic struck both nations, and war seemed on the point of declaration. However, this sudden cessation of national intercourse was only to gain a single day, that his celebrated jeweller might, at any cost, and with all his skill, procure aiguilets tagged with diamonds of the same size and appearance of the remaining ten. What cannot such a man and such means effect? The work was finished; and on the following day France and England were at peace. The ports were re-opened, and Buckingham despatched a secret messenger to France, who conveyed the twelve aiguilets tagged with diamonds to the hands of Madame de Chevreuse. He acquainted her with his recent adventure and communicated his suspicions of the countess of *Clarik*, who was frequently by his side during the ball, and with whom he had danced. He requested the Queen would receive back what he himself valued most, lest any concealed mystery should prove prove ruinous to her quiet. The precaution was not useless; for as soon as Richelieu had received the two tags sent him by the Countess of *Clarik*, this Minister, who was trying to ruin the Queen in the King's favor, and the royal jealousy had already broken out on her intercourse with Buckingham, now hit on what he had concluded to be a certain triumph. He put it into the King's head to request the Queen would dress herself more frequently with the diamond aiguilets, for that he had been secretly informed that she had valued his present sollightly as to have given it away, or had sold them, for that an English jeweller had offered to sell him two of these aiguilets.

The blow aimed by Richelieu rebounded on himself. The Queen, affecting no surprize, with apparent simplicity commanded instantly that her casket should be brought, and opened by the King. He had the satisfaction of counting the twelve aiguilets tagged with diamonds, and seeing the Queen more beautiful than ever by wearing the gift on that day. Her Majesty had also the satisfaction of learning that the King severely reprimanded Richelieu for his perpetual suspicions and his false intelligence; and Richelieu doubtless must have astonished the Countess of *Clarik*, by return of post, in expressing his indignation at being so inconceivably mystified.

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METEOROLOGICAL RECORD FOR THE WEEK ENDING MONDAY, MARCH 25, 1833.

KEPT IN THE CITY OF NEW-YORK.

[Communicated for the American Railroad Journal.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesd. Mar. 19	6 a. m.	30.15	43	SW	light	WSW	cloudy
	10	.16	47	SSW—S	..	..	fair
	2 p. m.	.12	61	S—SSE	..	..	.. —cloudy
	6	.11	53	SSE	..	..	rainy
	10	.14	50	SE	..—mod.		cloudy—rain
Wednesday, 20	6 a. m.	.13	42	NE by E	moderate		rain
	10	.13	42	NE by E—ESE	—light		..
	2 p. m.	.05	46	ESE—SE	..		foggy and rainy
	6	29.98	48	SE	..		.. ..
	10	.95	46	..	..		.. ..
Thursday, 21	6 a. m.	.83	48	SSE	faint		thick fog
	10	.85	54	..	..	SSE	cloudy and foggy
	2 p. m.	.80	59	S—SSW	moderate	SSW—SW	cloudy—rainy
	6	.69	54	SW	light	SW	cloudy
	10	.65	53	..	..	..	..
Friday, 22	6 a. m.	.69	47	SW—WSW	..	WSW	fair
	10	.71	54	WNW	moderate	WSW / W by N	.. —cloudy
	2 p. m.	.71	55	W—W by S	fr'h-mod.	W by N—NW	cloudy—fair
	6	.74	52	W	moderate	W	fair
	10	.82	47				clear
Saturday, 23	6 a. m.	.99	47	NW—W	faint		..
	10	30.04	54	SSW	light		..
	2 p. m.	.04	56	SSW—S	..		..
	6	29.97	52	S	..		..
	10	.97	44	SSW	..		..
Sunday, 24	6 a. m.	.97	40	..	..		..
	10	.94	50	SSW—SSE	fa't-mod.	WSW / S	fair—small strips of cirri from WSW
	2 p. m.	.87	56	SSE—SE	moderate	.. / — / ..	hazy—cloudy
	6	.78	46	SE	..	S	cloudy
	10	.75	44	..	light		..
Monday, 25	6 a. m.	.61	42	N	..	S by W / N	..
	10	.62	46	..	..	..	fair
	2 p. m.	.57	57	N by W—NNW	moderate	WNW / NNW	..
	6	.60	53	N by W	light	NNW	..
	10	.70	46				

Average temperature of the week, 49.54.

Sale of the widow Jessy Judah's Estate, March 26th, by JAMES BLEECKER & SONS.

House and lot corner of Hanover-square and Stone street, next door to the Gazette Office, 25x54	$24,600
House and lot 58 Nassau street	6,750
Lot corner of Bowery and 2d street	5,500
Lot in 2d street, near the Bowery, 25x58	1,350
Do 25x57	1,350
Do 25x55	1,222
Do 25x54	1,220
Do 24x34	1,035
Do 25x33	874
Do 25x30	730
Do 25x29	6 0
Do 25x28	640
Do 25x26	640
Do 25x25	590
Do 25x24	500
Nine lots opposite, each 99 to 57 feet, 25 ft front, each	810
1 lot corner 2d Avenue and 2d street, 16x100	2,000
1 lot, opposite corner, 20x100	2,150
1 lot adjoining	1,925
Corner 1st Avenue and 2d street, 25x90	2,150
1 adjoining, 25x95	1,775
1 do 25x100	1,825
1 do do	2,000
1 do 12x132	1,450
1 gore, 1:5x36	10·25
2 meadow lots, each $40	80
4 do do opposite, each $40	160
2 do do on 7th street, each $52	104

MARRIAGES.

On Monday evening, by the Rev. Mr. White, Dr. CHARLES F WILCOXSON, to Miss JANE BROWN, all of this city.

DEATHS.

On Friday morning, 22d instant, ROBERT WILLIAM, son of the late John Sharp, in the 20th year of his age.

On Monday morning, March 25th, of consumption, RACHAEL, wife of Mr. Thomas Dunkin, (of the firm of T. & J. Dunkin,) in the 31st year of her age.

This morning, after a short and severe illness, Mr. NATHANIEL FOWLER, aged 30 years.

At Charleston, on the 19th instant, WILLIAM CALDER, Esq. of New-York.

At Newburgh, on the 22d inst. in the 75th year of her age, Mrs. MARGARET GALATIAN, daughter of the late Cadwallader Colden, Esq. of Coldenham.

At Bristol, (Pa.) on Tuesday last, (19th inst.) after a very protracted illness, MARY, daughter of the late Major Fairlie, and wife of Thomas A. Cooper, Tragedian.

The pride and delight of her own circle, and the admired of every other, the subject of the above notice was one of the few exceptions to the general law, by which a female loses in interest what she gains in notoriety; and the witty and graceful, the beautiful and accomplished young creature, who was the heroine of some of the happiest papers in *Salmagundi*, became, as a wife and a mother, all that can engage esteem in those characters; while her rare intellectual endowments, her admirable disposition, and acknowledged worth, contributed no less than her fascinating manners, to secure her through the remainder of her life, the attachment of the many whose warm friendship cheered and solaced many a painful scene, until its close. H.

REPORT OF DEATHS—WEEK ENDING SATURDAY, MARCH 22.

Between the ages of

90 and 100— 0	50 and 60— 3	10 and 20— 4
80 and 90— 1	40 and 50—11	5 and 10— 1
70 and 80— 2	30 and 40—18	2 and 5— 6
60 and 70— 6	20 and 30—13	1 and 2—10

Of and under one year, 29—Total, 112.

Diseases.

Apoplexy	2	Inflammation of chest	1
Burned or scalded	1	Intemperance	3
Cancer	1	Marasmus	4
Childbed	1	Measles	1
Consumption	29	Old age	5
Convulsions	11	Peripneumony	7
Diarrhœa	1	Pleurisy	2
Dropsy	2	Pneumonia typhodes	1
Dropsy in the head	2	Spasms	1
Drowned	1	Sprue	1
Erysipelas	2	Stillborn	8
Fever	2	Suicide	2
Fever, scarlet	1	Tabes mesenterica	1
Hives or croup	8	Ulcer	1
Inflammation of bowels	4	Unknown	2
Inflammation of brain	4	Whooping cough	1

ABM. D. STEPHENS, City Inspector.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

☞ THE TROY IRON AND NAIL FACTORY keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

RAILROAD COMPANIES may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

☞ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y., July, 1831.

☞ Spikes are kept for sale, at factory prices, by I. & J. TOWNSEND, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water-street, New-York; A. M. Jones, Philadelphia; T. JANVIERS, Baltimore; DEGRAND & SMITH, Boston.

P. S. Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

j23 1am H. BURDEN.

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Dansville, Va.—Editors of the Reporter.
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